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The Influence of Dealers' Perceptions on the Buying and Selling of Islamic Bonds

by

Kamisan Gadar

**A thesis submitted in fulfilment
for the requirement for a PhD degree in
Islamic Finance**

**Institute for Middle Eastern
and Islamic Studies**

**The University of Durham
August 2004**

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ABSTRACT

Numerous studies have analyzed the criteria for choosing Islamic banks, but in mainstream publications no analysis has been undertaken in the area of investment decision making on Islamic bonds. This study examines the influence of socioeconomic characteristics on dealers' risk attitude and analyses the criteria for Islamic bond selection. The overall sample consists of 54 Islamic bond dealers in Kuala Lumpur Financial District. The questionnaire survey was conducted between 1 July and 30 August 2002. Both the log-linear and factor analysis are employed as statistical procedures. None of the three-way and two-way interactions of log-linear model can sufficiently explain the relationship between risk perceptions and dealers' characteristics. These results confirm that the main effects of education and occupational status influence the dealers' perception of risk. The evidence on risk ranking indicates that apart from credit risk, liquidity and inflation risks are among the most important risks perceived by the bond and fund managers. More importantly, it is found that the liquidity has a significant impact on Islamic bond selection. Thus, there is a significant similarity in the bond selection criteria with conventional bonds where liquidity is the most important factor in the investment decision. However, another interesting finding from this study is that the religious factor is also a major reason why bond managers choose Islamic debt securities.

ACKNOWLEDGEMENT

The comments and suggestions of Professor Rodney Wilson of the University of Durham are gratefully acknowledged. I would like to thank the many bond and fund managers who participated in this study. Financial support from the University of Pendidikan Sultan Idris is also gratefully acknowledged. I thank Hariri Khamis for his assistance with data entry, and John Welford and Graham Charles for their assistance with proofreading. I also indebted to my wife, Noraini and my children, Nurul, Fazrul, Nabihah, Najiah and Danial for their patience and scarify during the period of my study for my PhD degree.

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CHAPTER 1

PURPOSE AND PROBLEM STATEMENT

1.1 INTRODUCTION

Although financial economists have a great interest in the relationship between return and risk, few studies have attempted to quantify investors' perceptions¹ regarding their financial investment decisions. In a landmark 1975 study of stock perceptions, Gooding found that the US investors' group stock perceptions are highly related to ex-post risk and return measures. He studied the decision process of three groups² of equity investors and found that perceptual behaviours differed among investors³. Consequently, this study investigates the effect of individual socio-economic domains on dealers' perceptions and analyzes pertinent factors in their selection of Islamic bonds.

This study is organized as follows. Chapter 2 highlights theoretical concepts of Islamic finance and debt securities. In Chapter 3 we describe the financial system in Malaysia. Chapter 4 presents relevant information on the Malaysian bonds market. The research methodology and survey design appear in Chapter 5. The background of the respondents is discussed in Chapter 6. An analysis of the risk perception and dealers' characteristics is presented in Chapter 7. The determinant factors of Islamic bonds are

¹ The term perception is used to mean the process of becoming aware of objects, events and qualities that stimulate the sense organ (Ruch, Floyd L, (1963), *Psychology and Life*, Sixth Edition, Chicago: Scott Foresman, p. 654).

² See Gooding, Arthur E, (1975), in "Quantification of Investors' Perceptions of Common Stocks: Risk and Return Dimensions", *Journal of Finance*, volume 30, Issue 5, December, 1975, p. 1302) Three investors group were identified on the basis of investment related experiences and education.

³ *ibid* p. 1313, They include finance professors, portfolio managers and individuals investors. The average non-professional multi-dimensional perceptions could be represented by three dimensions whereas portfolio manager and investment professor were two dimensional. Non-professional multi-dimensional perceptions were found to be more heterogeneous than portfolio manager' perceptions.

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discussed in Chapter 8. We summarize our main results and present the conclusions in Chapter 9.

This study is important for several reasons. First, previous studies have mainly used a group perceptual dimension of investors to investigate stock perceptions. As Weber (1988) suggests that individual differences affect investors' risk perception, we utilize an individual perceptual dimension regarding Islamic bonds decision behaviour.

Second, this study differs clearly from previous studies of investor perception. Gooding (1975) analyses equity perception on the basis of investors' characteristics limited to experience and educational factors. In addition, he precludes employment in describing the perceptions. Similar to our study, Barron (1976) argues that occupation variables will affect an investor's risk perception. However, in contrast to us, he does not include the effect of managerial status on investors' perception. Previous research by March and Shapira⁴ (1987) on risk components argued that the judgment of the riskiness of decisions should include the top-level executives' perspectives. Analogous to this, therefore we include the effect of managerial status on perceptual behaviour of bond dealers.

Thirdly, we believe that our study contributes to a deeper understanding of the financial risk dimension which is important for bond issuing. Previous research by Beikos (1997) on the risk structure for profit and loss sharing (PLS) contracts concentrates on liquidity and currency exposures⁵. Obaidullah (1998) argues that Islamic debt is less

⁴ They argue that the definition of risk which includes the chance of occurring and skill factors must take into account the perspective of top executives and they support Slovic's view that the definition differs from the reference level by the general public.

⁵ See Beikos, Andrew (1997), *Credit Rating and Islamic Financial Institutions*, paper presented at the Conference on Structuring, Pricing, Marketing and Managing Islamic Funds organized by IBC Asia in Kuala Lumpur, June 23-24 1997. The degree of riskiness in Islamic banks is due to the following contributing factors: first, the bulk of an Islamic bank's assets are in illiquid forms; second, the

applicable to interest rate risk than conventional bonds. We investigate whether our risk ranking analysis satisfies the theoretical risk factors in the decision to purchase Islamic bonds. In particular, we examine whether liquidity, inflation, external events, reinvestment and currency risks affect dealers' selection of Islamic instruments.

Finally, we also believe that our study can serve several important needs of the investment community. Recent empirical research on bond selection factors such as that by Financial Issues Limited (2002) shows that the quality of issuers has a significant effect on the bonds selection decision. We investigate whether several groups of important factors such as the liquidity, religion and quality of issuers play a crucial role in Islamic bonds selection, as well as the perceptual differences among investment professionals that perhaps must be considered in designing financial assets. This study is relevant for dealers, issuers and other players in the formulation of bond marketing strategy and the development of financial engineering.

In our exploratory study, we selected respondents who are responsible for investment and treasury affairs of banking institutions, insurance companies, pension funds and selected unit trust companies. These respondents are fund managers, treasury managers, corporate banking managers, *sharia* advisors and fixed income professionals. The survey covers the period from 1 July 2002 to 30 August 2002.

We investigate dealers' perceptions of the Islamic bonds market and attempt to identify information that may account for the differences in their risk perceptions. Individual behavioural differences may be attributed to the dealers' characteristics such as employment,

variability in the rate of return is relatively high in the case of profit sharing investments; third, Islamic banking has difficulty in risk hedging; finally, Islamic banks are more exposed to changes in monetary and fiscal policies compared with conventional banks.

education and managerial level. To explain the socio-economic variables and their influence on dealers' perceptions, we employ multi-variate and log linear analyses.

Apart from risk perception, we investigate factors attributed to the selection of Islamic bonds which include the quality of issuers, religious reasons, liquidity and other reasons. We also investigate the ranking of risks, level of understanding of Islamic bonds and their opinions of Islamic debt securities.

The results confirm that the dealers' risk perceptions may not be influenced by interaction effects but evidently are by the main effects of education and occupational status. The influence depends upon the specific risk perception. Thus, while for example the main effect of education and occupational status appears to influence the perception of risk of delayed income payment, in contrast, the interaction result of those characteristics is irrelevant since it does not affect the risk perception.

The risk analysis confirms that credit and liquidity risks are the most important risks perceived by the fund managers. More importantly, it is found that the liquidity factor has a significant impact on Islamic bonds decisions. However, another interesting finding from this study is that the religious factor is also the main factor affecting why fund managers choose Islamic debt instruments.

1.2 LITERATURE REVIEW

The conceptualization of risk perception⁶ is important in portfolio decision-making. Earlier findings on investors' perceptions of risk choice suggest that socio-economic status influences the investors in investment decision making. Studies such as those carried out by Barron (1976) and Weber (1988) argue that age and occupation will affect an individual's perception of the relative riskiness of the investment alternatives.

Other empirical research documents changes in perceptual behaviour in different contexts or at different points in time. Thaler (1980) argues that the sunk cost will change the risk perception. Rubinstein (1981) extends previous work in order to take explicit account of situational effects. He argues that an investor's attitudes may vary over a period of time mainly because of situational factors that change their perception of what constitutes a risky option.

Schurr (1987) found that the perceived riskiness of a choice alternative depends on a person's reference point which includes outcome framing. Cooper *et al.* (1988) provided further evidence that risk perception between entrepreneurs and managers mediated the effects of situational characteristics on risky decision making behaviour.

⁶See Weber, Elie U, Milliman, Richard A, (1997), "Perceived Risk Attitudes, Relating Risk Perception to Risky Choice", *Management Science*, Volume 43, Issue 2, February 1997, p. 124-125. Risk perception refers to a person's attitudes towards risk seeking and risk avoidance. In the risk return framework, risk and risk preference are central. It is assumed that greater value and lower risk are desirable and an investor's preference will determine the risk-value trade-off. In contrast, the expected utility framework considers risk preference as risk attitude.

There are three different definition of risk preference. These include traditional risk attitude (Pratt, 1964 and Arrow, 1971), relative risk attitude (Dyer and Sarin (1982) and perceived risk attitude (Weber and Bottom, 1989). Traditional risk attitude is defined as risk attitude determined by the value of the first and second derivative of utility functions, while relative risk attitude is defined as a function of marginal value for the uncertainty outcome. Finally, perceived risk attitude is the tendency to be attracted or repelled by alternative – risky over less risky perceptions.

Bottom (1990), who extended the work of Schurr, examined the effect of positive and negative outcomes have an affect on the risk perception. Weber and Milliman (1997) also found that a change in investors' perception could be driven by the experience of failure or losses.

Numerous studies have analysed the criteria for choosing Islamic banks, but in mainstream publications no analysis has been undertaken in the area of investment decision making on Islamic bonds. Erol and El Bdour (1989) and Erol *et al* (1990) were among the first researchers who studied the selection criteria of individual customers with regard to Islamic banks. They examined conventional and Islamic bank customers in Sudan and Turkey and found that a fast and efficient service is the main reason for customers selecting their banks. Another important finding of Erol and El Bdour (1989) and Erol *et al* (1990) were the reputation and image of the banks, and confidentiality as the selection factors. However, religion was not the main reason for bank selection.

The previous empirical studies (Kader, 1993; Haron et al, 1994; and Gerard and Cunningham, 1997) in Islamic finance concentrated on bank customers' selection criteria. Similarly, these studies declared that *sharia* principles were not significant for Malaysian and Singaporean customers in selecting Islamic banks. However, fixed price funding and the absence of interest rate are important reasons for customers to patronise Islamic banks.

In contrast, Metawa and Almossawi (1998) who studied the bank customers' criteria in Bahrain, showed that Islamic principles are the most important criterion for customers in patronising their banks. The three other important factors are rewards, influence of family and friends and convenient location.

As a result of the emergence of Islamic banking, a considerable amount of theoretical literature has been published concerned with the issuing of Islamic bonds (Ausaf Ahmed and Tariqullah Khan (eds.), 1998; Haque and Mirakhor, 1998). Each of these studies has proposed various viable approaches for the design of Islamic financial instruments based on interest-free transactions.

Haque and Mirakhor suggest government securities on the basis of profit sharing to finance infrastructure and development projects. They recommend a general index of the rate of return on government paper and the trading of the instruments in the stock market.⁷

Hamoud (1998) discusses the conceptual issues underpinning the introduction of *mudaraba* or *musharaka* bonds⁸. He argues that the issuing of such instruments may represent a combination of assets such as physical assets, money or debts. He also argues that the negotiability of the financial instruments is subject to the rules relating to the dominant asset category.

⁷ See Haque, Nadeem Ul and Mirakhor, Abbas (1998), *The Design of Instruments for Government Finance in an Islamic Economy*. IMF Working Paper/98/54, Washington: IMF. They suggest floating rate securities which are equivalent to the adjusted rate of private sector's rate of return. The index may combine domestic and international indices. The instruments can be traded in the stock market.

⁸ See Hamoud, Sámi Hassan "Islamic Financial Instruments Based on Intermediary Contract" in Ausaf Ahmad and Tariqullah (eds) (1998) *Islamic Financial Instruments for Public Sector Resources Mobilisation*, Islamic Research and Training Institute, Jeddah: IDB op. cit pp. 97-99.

Zarqa (1998) provides the theoretical basis for the feasibility of *istisna* bonds for financing public infrastructural projects⁹. Monzer Kahf (1998) explores the possibility of *ijara* contracts for the issuing of government papers,¹⁰ while El Gari (1998) explores the possibility of *salam* contracts for the designing of financial instruments for short term government securities as a substitute for conventional treasury bonds¹¹. However, the majority of studies in the area of Islamic bonds focus on conceptual issues related to bonds, *sharia* aspects and its possible *modus operandi*.

With the exception of the research conducted by Financial Issues Limited (2002) on factors pertinent in conventional bond selection, no studies examine dealers' selection criteria for Islamic bonds. They investigated the determinants of the bond investment decisions. However, their study is insufficient for investigating the selection criteria because they concentrated only on bond issuers and the conventional financial environment.

⁹ See Zarqa, Muhammad Anas “*Istisna* financing of Infrastructure Projects” in Ausaf Ahmad and Tariqullah (eds) (1998) *Islamic Financial Instruments for Public Sector Resources Mobilisation*, Islamic Research and Training Institute, Jeddah: IDB op. cit pp. 231-241. Apart from debt obligation, the responsibility of investors or sellers is to guarantee the quality and quantity of goods sold. He also argues that *istisna* bonds represent public debt which must be traded at their face values. They may be transferred at face value to a third party on the basis of *hawala* contracts. They can be issued either as transferable or non-transferable bonds. The purposes of *istisna* contracts is to facilitate the manufacturer and buyer who need financing to produce and to purchase respectively.

¹⁰ See Kahf, Monzer “The Use of Assets *Ijara* Bonds for Bridging the Budget Gap” in Ausaf Ahmad and Tariqullah Ed (1998) *Islamic Financial Instruments for Public Sector Resources Mobilisation*, Islamic Research and Training Institute, Jeddah: IDB op. cit pp. 107-108. He argues that the government who owned the leased assets may issue *ijara* bonds to finance infrastructure and public services. The bond holders deserve the right of rental payment as the new owners of the leased asset and they may sell the instruments in the secondary market at market price. The instruments may be issued as short, medium or long term instruments. The instruments are affected by both financial and real market forces.

¹¹ See El Gari, Muhammad Ali “Islamic Investments Funds as Means of Resources Mobilization” in Ausaf Ahmad and Tariqullah (ed) (1998) *Islamic Financial Instruments for Public Sector Resources Mobilisation*, Islamic Research and Training Institute, Jeddah: IDB op. cit pp. 277-278. The issuing of *salam* bonds is subject to tangible assets such as oil, iron, aircraft seat and electricity. The instruments are associated with goods which are characterised as standardised, identical units and its utility is derived from direct consumption or changing its basic form.

1.3 PURPOSE AND PROBLEM STATEMENT

In the real world, the outcomes of managers' financial investment decisions are affected by a combination of chance and skill elements. Risk taking refers to a decision where the outcome is a function of skills and information, on the other hand gambling involves a decision which is influenced merely by a chance elements (Mac Crimmon and Wehrung, 1986; March and Shapira, 1987). This research's focal point is an understanding of the effect of socio-economic variables that characterize managers' risk perceptions and an analysis of the pertinent factors in their bond selection.

The purpose of this study is to determine empirically the relationship between dealers' socio-economic characteristics and individual perceptions of Islamic bond risks and to examine the major criteria influencing investment managers in their decisions on bonds within the context of the Malaysian financial environment. Perceptions have been selected as the focus of this study because the socio-economic variables are assumed to be associated with the risk judgment and the investment managers are likely to be involved in investment selection.

Motivated partly by empirical evidence in the conceptualization of risk in the decision making process, finance literature has recognized the effect of personal traits on investors' stock selections. Similarly, the distinction between risk perception and risk preference is important in understanding the risk-return framework (Cooper et. al, 1988).

The notion of risk preference as a stable personality trait means that the investor can be either a risk taker or a risk avoider. Schoemaker (1993) and Weber and Milliman (1997) discovered that risk preference is not affected by situational and individual factors. They

argue that it is stable and will remain unchanged. In contrast, risk perception is a function of demographic characteristics and the environmental context. Most researchers in the conceptualization of the risk decision making processes have discovered that the perception of the riskiness of different choices may change dynamically with situational and individual factors.

This research intends to test the four main hypotheses as follows:

1. Is there any connection between the bonds' risk perceptions and individual preferences. If there is a relationship then what socio-economics characteristics influence their dealings in the bond market.
2. Islamic dealers are aware of bonds risk, but associate this with the profit motivation for investment decision making.
3. Islamic dealers are motivated by economic and religious factors that influence their decisions in buying and purchasing Islamic bonds.
4. As the Islamic bond dealers also deal in conventional bonds then the selections, the selection criteria for Islamic bonds do not differ except in the avoidance of interest.

In relation to these hypotheses we also identified a numbers of the research question which include the followings:

1. Will bond dealers who are senior in managerial level perceived risk better than those who are junior?
2. Does the dealers in finance professional sector have a different risk perceptions compared to dealers in non-professional sector?
3. What are the dealers' attitudes toward the ex ante risk dimension in the Islamic bond market?
4. Does the education level change the risk perceptions of Islamic bond dealers?
5. Does the liquidity factor influencing the dealers in their Islamic bonds selection?
6. Was the *sharia* factor the main criterion for Islamic bonds decision making?
7. What sort of the issuers' quality appeal the bond dealers and what does this tell us about the reality in Malaysia's Islamic bond market?
8. Does the credit risk is the most important among the different types of risks in the selection of Islamic bonds selection?

A recent study by Financial Issues Limited (2002) examined investors' selection criteria for conventional bonds. In their research, they used average scores to determine UK bond selection criteria and they found that price is the main criterion. Other important factors influencing the managers in bond selection are knowledge of issuer, cash flow, knowledge of sector, deal structure, liquidity and assigned rating.

In the light of these findings, we also attempt to examine the determinant factors in the Islamic bond purchasing process. Consequently, we intend to investigate any link between the decision making on bond purchases and sales and the dealers' risk perceptions in the context the risk-return framework of modern Islamic financial theory.

1.4 CONCLUSIONS

The nature of investment risk and its role in the decision making process regarding asset purchases and sales are extremely important in modern Islamic finance theory. Much of the previous work has concentrated on Islamic banking issues. Although there is a plenty of theoretical work regarding Islamic bonds, the literature is insufficient because the majority of studies focus on the concepts of bond issuing and the operational mechanism. Similarly, few studies in this field investigate the conceptualization of risk and its relationship with bond selection criteria. Motivated by previous studies and recent empirical evidence, this research intends to investigate the effect of the socio-economics on managers' perceptions, and to analyze the pertinent factors in their Islamic bond selections.

CHAPTER 2

ISLAMIC FINANCE AND DEBT SECURITIES

2.1 INTRODUCTION

In Chapter 1, we elucidated the purpose and problem statement that underpins our research. In this chapter, we will examine the general principles of Islamic finance and the applicability of *sharia*-based financial instruments. The objectives of this chapter are:

- To describe potential modes of financing
- To examine the applicability of Islamic financial instruments
- To illustrate some *sharia* issues relating to Islamic bonds

The development of an Islamic financial system is generally associated with commercial activities conforming to *sharia* principles, particularly interest-free banking. However, the Islamic financial system is not restricted to the banking sector but covers the financial sector, which includes capital markets, money markets and all types of financial intermediation. Indeed, Islamic finance has emerged as a new dimension in the modern financial sector. The emergence of Islamic finance is the consequence of various factors such as the global integration of financial markets, structural reforms in financial systems and the desire for a socio-economic system based on Islamic values.

The philosophy of Islamic finance differs from that of conventional finance. Islamic finance encourages economic justice and business ethics but precludes the practice of business activities which contravene the *sharia* rules. Islamic financial markets offer a variety of interest-free instruments through the mechanisms of sales, trade, and profit sharing

investments. The key concepts include cost-plus financing (*murabaha*), profit sharing (*mudaraba*), leasing (*ijara*), equity financing (*musharaka*) and forward sales (*bay salam*). These basic concepts could be developed to cover a wide spectrum of financial instruments in the Islamic financial markets.

The basic framework of Islamic finance can be summarized as follows:

- Islam rejects *riba*, which guarantees interest income regardless of financial results. In order to be eligible for any returns, the provider of capital and the entrepreneur must share business risks and together instigate the productive endeavours.
- Money is regarded as potential capital. The notion of the time value of money is acknowledged merely through the combination of money and other resources in the commercial projects and productive activities.
- Economic ventures should not violate the teachings of *Quran* and *Sunna*. Any investment must avoid dealing with alcohol, gambling, usury and other sinful activities.
- The principle of uncertainty (*gharar*) is the essence of commercial contracts. The declaration of information that avoids the element of excessive speculative and dishonesty is a duty.

2.2 ISLAMIC FINANCIAL MARKETS

The Islamic financial system is based on the equity-based system (Algaoud and Lewis, 2001). Islamic banks participate directly in business through equity financing. Islamic banks also act beyond pure financial intermediation, they are largely involved in sales-based transactions such as *murabaha* and *bay muajjal* to finance industry. They are predominantly focused on risk sharing and the prohibition of *riba*.

By contrast, the conventional financial system can be divided into two broad categories, namely the market-based (UK, US) and the bank-based (German, Japanese). The former has highly developed securities markets and the banks play a secondary role in corporate financing. The latter, however, has less highly developed securities markets and the banks play a primary role in corporate finance (Mayer, 1998; Lewis, 1996).

The banking sector is the most developed segment of the Islamic financial system. The 1970s witnessed the establishment of Islamic commercial banks. Iran and Pakistan offer fully-fledged banking systems, while Malaysia, Egypt, Indonesia, and The Gulf States provide a dual banking system, which includes Islamic windows as well as specialized Islamic banks. Owing to the potential of the Islamic financial market, Western banks in Islamic countries have also established Islamic windows or Islamic banking. Edge (1995) argues that many conventional commercial banks offer their clients Islamic financial services because of the success of the retail bank market and the mounting consciousness of Muslim customers towards interest-free banking products.

In fact, the early Islamic financial system was focused entirely on commercial banking activities. Islamic asset management is a relatively new and emergent sub-set of the Islamic banking system, especially since the mid-1980s. The scope of Islamic finance could be further developed into the areas of asset-liability management, public finance, micro-credit finance, and asset securitization. For example, micro-finance through promoting entrepreneurial development and financial assistance can help the poor who are currently excluded from Islamic finance. Securitization offers perhaps the most promising prospects for Islamic finance, particularly in the creation of financial assets. Currently, Islamic finance is still associated with lack of depth in the secondary markets, the non-existence of asset-liability products and the absence of liquidity tools (Zamir Iqbal, 1997).

The Islamic financial market is an avenue for the exchange of instruments between financial investors and real investors as well as among financial investors within the context of *sharia* principles. The integration of the economic relationship between Islamic and non-Islamic institutions has become increasingly important in international banking. Western financial markets continue to offer Muslim clients diversified portfolio investments and international remittance services.¹² In London, Al Baraka International Limited offers a range of banking services, especially trade financing, while in Geneva, Dar al-Maal al-Islami promotes commercial investments in the developing capital markets. UBAF (l'Union de Banques Arabes et Francaises) is a correspondent bank for the Faisal Islamic Banks in London, Paris and other European. Instead of exploiting business potential in Western markets, many Islamic banking institutions prefer to engage in business with the

¹² Edge, I. (1995), *Contemporary Issues in New Financial Instruments: The Islamic Perspective*, paper presented at Seminar on Contemporary Islamic Financial System, 12-13 April 1995, Pan Pacific Hotel, Kuala Lumpur.

conventional banks due to the constraints of the regulatory environment and the lack of economies of scale in their activities (Edge, 1995).

Some Western banks market Islamic investment instruments. Kleinwort Benson and The Union Bank of Switzerland, for example, offer an Islamic investment product. However, not all Muslim investors are comfortable with these products, especially regarding the legitimacy of such instruments according to *sharia* rules. Edge (1995) argues that although the shares of Islamic companies have been quoted on the Cairo, Amman and Kuwait stock markets and many others, developments were hampered by nationalization policies.¹³ He also argues that the traded volumes in government securities are not sizeable and these instruments in most cases contain a *riba* element.

The deficiency of marketable Islamic financial instruments forces many Islamic banks to hold a high volume of liquidity simply because they cannot utilize their cash reserves in the form of *riba* inter-bank deposits or interest-based government securities. These situations limit down the flexibility of Islamic financial institutions and compromise their profitability.

In the 1990s, trade financing under the principle of *murabaha* in Muslim countries was growing rapidly. Most of the Euro-Arab joint venture banks, for example, offer Islamic trade finance on this basis¹⁴. However, trade financing requires relatively more time to meet pressing immediate liquidity needs. In 1998, the Islamic Development Bank launched The IDB Fund which is worth US\$1.5 billion for infrastructure projects in its 52 member countries. The target sectors include power, telecommunications, transportation, energy,

¹³Many family businesses in Muslim countries are reluctant to seek a public quotation, as they fear, probably that family control might be lost. Often finance for expansion is sacrificed, and businesses remain small, because of such worries.

¹⁴ Ibid, p.7.

natural resources, petrochemical and other related sectors.¹⁵ The Fund is a limited partnership with an equity capital at US\$1 billion and returns for the Fund are 18-20%. The leading advisor to the Fund is The Islamic Investment Company of the Gulf, the investment-banking arm of Dar Al Maal Group.

2.3 DEBTS SECURITIES AND ISLAMIC FINANCE

Islamic finance within the context of modern practice is still developing, although there are many economic issues among others that are yet to be resolved. For example, what are the criteria for deciding on *musharaka* rather than *mudaraba*? What considerations should be taken in terms of the scale and timing of *musharaka* financing? Should there be universal assessment of risk capital? Is the mark-up being solely determined by risk? Should demand determine who gets access to *mudaraba*? Each individual contract has its own criteria and there are no standard guidelines.

A variety of financing instruments has been developed that satisfy Islamic doctrine and provide acceptable financial returns for investors. Broadly speaking, Islamic banks are most active in trade, commodities, property and leasing. In terms of venture capital, Islamic banks could invest through *musharaka* financing where the financier and its client set up a separate company. Both the provider of capital and the entrepreneur share risks and profits. In fact, *musharaka* finance seems to be the ideal financial model in such cases.

¹⁵Bussiness Wire (1998), *Islamic Development Bank Launches US\$1.5 Billion Infrastructure Fund*, Gale Group dated Oct 6, 1998.

2.3.1 Concepts of *Al Qard* (the loan) and *Al Dayn* (the debt)

Literally, *qard* means 'surrender'. In the economic context it means the surrender of capital or money. *Al qard* arises from the transfer of an asset where its return is equivalent to the original value. For whatever purpose the money is borrowed, technically that loan transaction is known as *al qard* and any reward arising from it is considered as *riba*¹⁶. Under Islamic theory, a loan is a form of charity rather than a commercial transaction. Loans with any benefit or increment to the lender nullify the concept of 'loan'.

All the Muslim jurists unanimously reject the pre-determined or guaranteed return resulting from straight loan transactions except when the surplus value is a gift or an appreciation for the loan.¹⁷ Qardawi argues that the borrower may return more than he borrowed if the excess payment was not stipulated as terms and conditions in a loan agreement. He also argues that the following famous saying: "Every loan settled with an amount exceeding the capital sum borrowed is usury" is not a hadith¹⁸.

¹⁶ According to Al Razi, the amount of loan enhanced by the lender upon the extension of time is forbidden in Islam and that excess is termed as *riba nasia*.

¹⁷ The famous Quranic injunction in this context is the one in which *Sura Al Baqarah* says "That which you lay out for increase with Allah, but that which you lay out for charity seeking the countenance of Allah (will increase); it is those who will get a recompense multiplied" The Quran, Sura 30:39. The most famous hadith in this context is the one in which the Prophet has said, "The finest among you are those who repay (return) better than what you received" See Khan, M.A (1989), *Economic Teaching of Prophet Mohammad*, International Institute of Islamic Economics, Islamabad. p. 164. Abu Huraira reported that Allah Messenger owed a young camel (under six years old) to a person. Then the camels of *sadaqa* were brought to him. He ordered the companion to return to that person. The companions returned to him and said, "We do not find a camel of that age but one with a better age than that." He said, "Buy that and give that camel to the person, it is best amongst you who are first-rate in paying off the debt"

¹⁸ Security Commission (1998), *Islam and Current Issues: Views of Prof. Dr. Yusouf Al Qardawi*. Kuala Lumpur, p. 43.

Islam recognizes the role of money as a medium of exchange and the surplus values resultant from profit sharing investments or sales transactions. In the modern Islamic banking system, *qard hasan* are interest-free loans which the banks extend to their clients in the form of study loans and small business loans. Loans with service charges under the concept of *qard hasan* are valid if a service charge represents the cost of administration. According to the Council of Fiqh Academy, service charges are not like interest if the payments are restricted to the administrative costs.

Although the majority of Islamic jurists agree that the sum exceeding a loan is not permitted, they do however have different interpretations. The Hanafi School argues that the addition or surplus stipulated for a loan is restricted to property or commodities which can be measured or weighed such as gold, silver, iron, wheat and the like. Imam Shafie argues that any additional advantages to the loan are illegitimate only if they are food items and currency in the form of either dirham (gold) or dinar (silver). However, Imam Malik argues that the prohibition of extra value to the principal amount borrowed is restricted on absolute money. Nevertheless, contemporary jurists argue that paper money, which has replaced gold and silver, may constitute debt usury if the loan transaction stipulates an increase of the principal amount.¹⁹

It is important to note that the concept of *al qard* (the loan) differs from *al dayn* (the debt). The Arabic word for a debt is *al dayn*, which literally means debt obligation or liability arising from the activity of trade and commerce. Islam encourages *tijara* (trade) and urges the avoidance of wrong business practices (*al batil*)²⁰. The word *al dayn* is truly comprehensive, indicating that all human beings are indebted to Allah and they should fulfil

¹⁹ S.H Hamoud (1985), *Islamic Banking in the Adaptation of Banking Practice to Conform to Islamic Law*, London: Arabian Information Ltd, p. 89.

²⁰ See The Quran, Sura 4:29, Al Baqarah. "O you who believe, eat not each other's property by wrong means but let there be amongst you trade and business through mutual goodwill".

their duty to Him by observing *salat* (prayer), *saum* (fasting), *zakat* (tithe) and *hajj* (pilgrimage) in exchange for His bounties. In *muamalat* (commerce), *al dayn* (the debt obligation) arises from trading activities representing the individual's right to fulfil business contracts. It means that the right of the vendor who sold the goods on credit terms is to receive the debt repayment on a specified date as agreed by the purchaser. Any of the parties may cancel the sales contract by giving notice before the delivery of the goods. If the vendor has delivered the goods, the contract cannot be cancelled unilaterally.²¹

Thus the term *al dayn* has much wider connotations as compared to the term 'debt' in common law. The price may be paid immediately on the delivery of goods sold. The spot payment of a cash sale is called *ayn*. It is possible to have the goods delivered immediately but pay the price later. Such a postponement of payment arising from a credit sale is called *al dayn*. However, it is also possible to postpone the delivery of goods and pay the price on the spot. This sale known as a future sale (*bay salam*).

The Hanafi and Hanbali jurists argue that the vendor has an option to withdraw his offer before acceptance is made. The rationale is that while the purchaser is still keen on making a decision either to accept or to reject, the vendor can quickly withdraw his offer due to some mistake or forgetting to include something in the offer. The Maliki jurists reject this view because they argue that once the offer is made to the purchaser, the vendor cannot withdraw the offer. The vendor ought to have decided everything before making the offer, not after.

²¹ Doi, A.R, (1984), *Shariah: The Islamic Law*, , Kuala Lumpur: A.S Noordeen, p. 357.

It is evident from the above discussion that variations in the application of *al qard* and *al dayn* have some financial implications. Firstly, we examine the concept of lending money from an Islamic perspective. Many Islamic banks extend money based on either interest-free loans or profit sharing arrangements. Under the interest-free loan, the debtor must guarantee the principal amount borrowed irrespective of whether it is used for investment or not. In case of *mudaraba*, the financiers have the right of a share of the profits because they provide the capital. In other words, when the money is being utilized productively the profits can be shared between the financier and the entrepreneur based on an agreed sharing ratio. The financier may also have to bear the losses unless they are due to the entrepreneur's negligence.²² In Islam, *al qard* involves a transfer of property rights. The lender has the right to claim the principal amount borrowed, nothing more and nothing less. Thus, Islam recognizes the concept of wealth creation based on the productivity of money.

Secondly, *sharia* accepts money as a store of value and a medium of exchange but rejects money as a commodity. If the money is priced like a commodity, the reward is technically known as interest regardless of whether it is fixed or variable. The price of money should be at par value because the debt is created through an exchange of the same denomination.²³ It does not matter whether the price is being paid in advance or on the maturity date. *Al qard* is a debt obligation arising from a straight loan contract and therefore not from a contract of exchange. Extending a loan or *qard* is to meet a moral obligation but not for monetary reward.²⁴ Notice here that the Islamic concept of money differs from the capitalist concept in that Islam does not consider money as a legitimate commodity which

²² Khan, M.A (1989), *Economic Teachings of Prophet Muhammad*, Islamabad: International Institute of Islamic Economics, pp. 150-151. See also Syed Sabiq (1970), *Fiqh al Sunnah*, pp. 61-62, Beirut.

²³ Taqi Usmani (1999), "Forward Sales and Manufacturing Contracts," *International Journal of Islamic Financial Services*, Volume 1, No 2, July-September, 1999.

²⁴ Khan, M.A (1989), *ibid*, p.151.

produces any rewards. In the Islamic sense, money is only potential capital, which generates gain or loss in a business partnership.

Thirdly, the underlying concept of credit affects the moral obligation. If the borrowing is based on *qard hasan*, the primary responsibility is to extend a loan to the poor and needy. In contrast, the profit sharing mode is more relevant for commercial purposes than for charitable ones.

Fourthly, under Islamic theory, the element of time does not justify any reward. Any stipulation over and above the amount borrowed disqualifies the reward. As *sharia* restricts *riba al nasia* (time extension usury), this means *al qard* (the loan) does not cause the value of money to appreciate over the passage of time. Unlike the Western concept, the value of money does not justify the lender to claim financial rewards through the time factor. However, Islam only recognizes time as an important element of contracts, which indicate the dateline of debt repayment for the debtor to pay the creditor.

There are many differences between *al dayn* and *al qard*, which are summarized below:

- the debt obligation of *al dayn* is always a liability that arises from the trading transaction, while *al qard* can be created through the lending or borrowing of money.
- the financier has the right to claim a pre-determined return in *al dayn* but it is not so in the case of *al qard*.

- *al dayn* involves merchandise items that are sold as the commodity, while *al qard* regards money as the underlying asset.

-*al dayn* is an essential element of a commercial purpose while it is not necessary in *al qard* that the purpose is regarded as trade.

2.3.2 The Applicability of Sharia Principles to Debt Securities

2.3.2.1 *Al qard* debt instruments

Islam permits the act of lending and borrowing money without interest. Such a transaction is known as *al qard hasan*. Modern banks and financial institutions can use this mode of financing especially to finance the small business sector. The doctrine of granting interest-free loans generates a moral obligation on Islamic banks and financial institutions. It means that the concept of micro-finance through benevolent loans can facilitate the small and medium business as an alternative financing arrangement to conventional loans.

The only problem in *al qard* that may demotivate financial intermediaries today is that they can receive the principal sum borrowed but cannot receive interest payments from their clients. The claim of money over and above the original debt by the act of borrowing and lending is prohibited in Islam.

In principle, it is not permissible to charge a penalty for late payment of the benevolent loan. However, the majority of scholars argue that the permissibility of a penalty is a deterrent against the borrower who delays the payment of a debt without any genuine reason. They argue that the penalty is compensation to the lender for any losses resulting from the late payment. They say that such a debtor has betrayed the creditor by making a profit from

the purloined money. Jurist scholars of Al Baraka Seminar have accepted this view. They suggest that a court of law could decide the compensation as determined by financial experts. The amount must be equivalent to the average profit that was made from the amount of money during the period after the payment was due. However, they do not mention clearly whether the creditor who grants a loan is relatively richer than the debtor and the result of the business does not necessarily lead to the making of profit.

Some scholars argue that the usage of the compensation should be restricted to legitimate charitable activities or social welfare. They argue that the Prophet did not mention any compensation caused by late payments. The only condition according to hadith is that delaying payment is unjust. Therefore, the penalty payment of *qard hasan* is to dissuade those who are financially capable but purposely delay their debts and to compensate the loss incurred by the lender.

However, the jurists have a different view regarding the stipulation of penalty clauses on benevolent loans. Majority jurists support the view that compensation for late payment with a valid reason is acceptable. In contrast, some jurists argue that it is not permissible to stipulate a penalty payment for late payment of *qard hasan*. They argue that such a clause indicates the preliminary endorsement of charging interest on the amount borrowed.

It is evident that *qard hasan* can provide short-term financing for needy individuals and social purposes. For example, The Nasser Social Bank in Egypt has provided education loans which are payable upon the students' graduation.²⁵ However, modern banks may offer overdraft facilities especially to provide short-term loans without any charges. Clients who

²⁵ Presley, R.J, (1988), *Directory of Islamic Financial Institutions*, London: Croom Helm Ltd pp. 29-30. See also Wilson, R, (1983), *Banking and Finance in the Arab Middle East*, Basingstoke, Hampshire: Macmillan Ltd, pp. 77-79.

need urgent cash can withdraw more than their available balance. Islamic banks can give a reasonable grace period for repayment if the delay was for a genuine reason. The overdraft is usually for productive purposes but this may vary depending on the policy of the bank in question.

Furthermore, *qard hasan* can facilitate financial institutions to promote socio-economic development through the establishment of special funds for various social purposes²⁶. In the Middle East countries, Islamic banks offer social funds as an extra banking activity. The source of funds is usually from donations and *zakat* payments. The funds are to help Muslim communities in such activities as building mosques, education, and social relief.²⁷

The classical pattern of *qard hasan* involved two parties in the contract. The lender granted his money to a debtor he knew and trusted, usually from the same village. The debtor only paid back the principal amount borrowed on the agreed date. Today this contract has become more complex. For example, modern transactions can involve three parties, namely the government, the financial institutions, and the investors lending money through the issuance of bonds.

With government bonds, the providers of the funds, such as individuals, financial institutions and corporations, would expect the repayment of the principal amount at the maturity date. The government may appoint its principal dealers to facilitate borrowing among the fund providers and to facilitate sales and purchases among the holders of the bonds. *Qard al hasan* government bonds in Malaysia are known as Government Investment

²⁶Doi, A.R, (1984), *ibid*, p. 357

²⁷ Abdeen, M, and Shook, N (1984), *The Saudi Financial Systems*, , Chichester : John Wiley & Sons, p. 207. See also Mannan, M.A, (1987), *Islamic Economics, Theory and Practice*, Boulder: Westview Press.

Issues.²⁸ Unlike conventional bonds, these bonds do not promise coupons or interest payments as Islam prohibits *riba*.

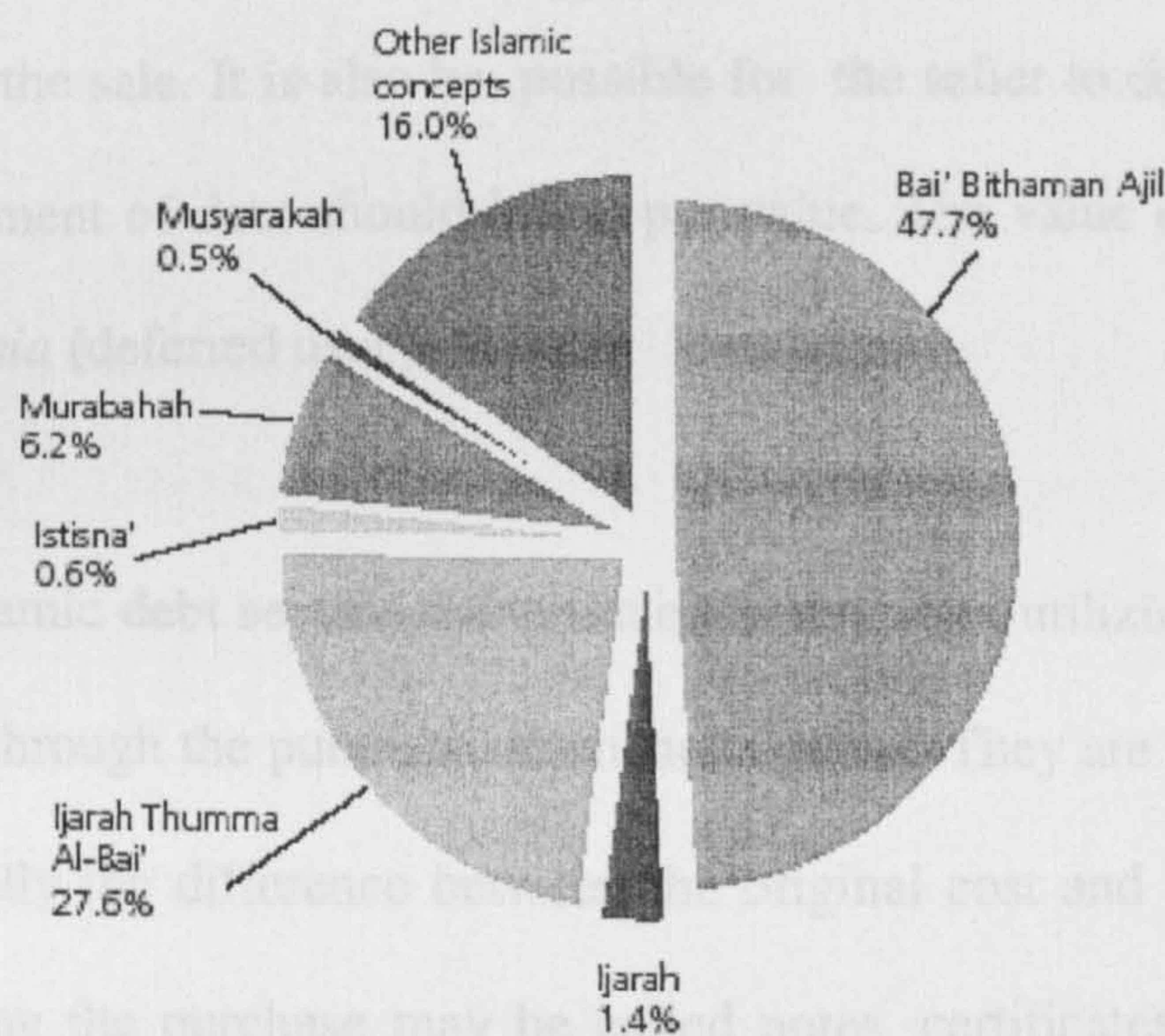
However, unlike conventional bonds, these Islamic bonds are non-tradable assets. Technically, trading such bonds means a sale of money and it must be at par value. Any increase or decrease of value from the exchange of money would be tantamount to *riba*. From the Western perspective, the bonds represent fixed sources of income with a guaranteed repayment of the loan on maturity.²⁹ In the case of zero coupon bonds, the implicit interest is the difference between the price paid and the redemption payment. On the other hand, the *qard hasan* bonds do not pay any interest but pay a return subject to the absolute discretion of the borrower under the concept of a gift.³⁰

²⁸ Bank Negara Malaysia, (2001) Kuala Lumpur.

²⁹ Choudhry, M, (2001), *The Bond and Money Markets: Strategy, Trading, Analysis*, London: Butterworth-Heinemann, pp. 3-5.

³⁰ Saiful, A.R., (1999), "The Application of *Bay al Inah* and *Bay al dayn* in Malaysia: Islamic Bonds- An Islamic Analysis", *International Journal of Islamic Financial Services*, Volume 1, No.2, July-September, 1999.

Figure 2.1: Financing Methods by type (end 2003)



Source: Bank Negara Malaysia Annual Report 2003, graph 5.2 p. 198.

2.3.2.2 Sales Contracts and the Debt Securitization

The contract of sales (*al bay*) means the exchange of a commodity for something of equivalent value (the price). The essences of sales are the delivery of goods and the payment of a price. In *sharia*, it is permissible to postpone the payment of the price as well as the delivery of the goods. If the price is paid immediately, the goods can be delivered later or vice versa.

The term ‘Islamic debt securities’ means that the debt instruments originated from the deferred sales transaction in which the profit margin is fixed. The validity of debt securities is subject to the basic condition of sales contracts according to *sharia* rules. It is necessary for the validity of sales that the commodity must be in the physical possession of the seller and it should be possible for it to be delivered. The goods must also be lawful and wholesome. These conditions have four implications. First, the subject matter of a sale is a

commodity rather than money. Second, the presence of a profit margin replaces the interest payment as a basis of pricing the debt. Third, the commodity should be in existence at the time of the sale. It is also possible for the seller to deliver the goods when sold. Fourth, the payment of debt should be on par value. The value of debt exceeding the face value is *riba nasia* (deferred usury).

Islamic debt securities facilitate the investors utilizing their surplus funds to earn *halal* profits through the purchase of financial assets. They are entitled to the profit margin, which is actually the difference between the original cost and the mark-up price. The documents certifying the purchase may be called notes, certificates, or bonds. The investors can sell back the bonds to the issuer who is the seller of the financial assets, to receive the money in cash.

The essence of securitization is the sale of assets that is generated under the concept of *al dayn*. The most common types of asset that are securitized include mortgages, trade finance, and leasing. However, securitizing assets generates additional returns for the issuing companies and reduces the capital costs. As with conventional securitization, Islamic securitization has a risk-return profile that is attractive to the investor. Securitization usually provides the investors with a return on the asset they purchased. However, instead of interest-based loans, the underlying asset should be derived from sales-based financing such as *bay muajjal*, *murabaha*, *isitisna*, *bay salam* and *ijara*. In short, securitization in Islam must originate from *al dayn*.

The process of securitization involves the creation of debt through *bay al inah* and the trading of debt through *bay al dayn*. *Bay* means sale and *inah* means cash. *Bay al inah* covers two separate types of sales contract, namely deferred sales and cash sales.

The legality of *al inah* is centered on the issues of the price differential and the intention of the sales. One view argues that the difference between the two prices constitutes *riba*. Prohibiting *al inah* would avoid *riba* transactions. A second view argues that the price differential is not equivalent to *riba* because the spot price and the deferred price are independent. The issue of lawful or unlawful contract does not rely on the price but on the intentions of the contracting parties.³¹ In this context, the key factor to validate the legality of *al inah* is actually the motive behind the sales rather than the price differential.

According to Shafie jurists, the motivating factors supporting *al inah* are legal devices (*hilah*) to justify a loan without interest through the sales contract. They argue that if the motives of the contracting parties are lawful, then *al bay inah* is valid. The intentions of the contracting parties do not invalidate the contract.

Ibn Qayim and Hanbali argue that the legality of the contract depends on the intention. They argue that sales of grapes are void if the seller knew directly or indirectly that the buyer intended to process the grapes for the production of wine. Ibn Rushd supports the view that the marriage of a man who intends to divorce his wife and allow a previous husband to remarry her would be void.

³¹ Saiful, A.R (1999), *ibid*.

The majority of jurists argue that *bay al inah* is prohibited because the contract incorporates the element of *riba*. Their argument is that Imam Shafie has not based his argument on the authentic hadith for the validity of *al inah*. Al Qardawi argues that *bay al inah* represents the elements of trickery and usury.³² He argues that trickery contravenes the ultimate objective of *sharia* and that the validity of *inah* is based on Shafie's personal view rather than on concrete legal proof.

According to Ibn Taimiyyah, the *inah* is haram because it is unjustified to receive a monetary advantage without giving a counter value. Imam Malik supports the view that the *bay al inah* contract is invalid because such a transaction resembles disguised *riba*. The argument is that the price in *al inah* is normally increased and this is done neither for a consumption purpose nor a trading purpose.

The Arabic word for debt trading is *bay al dayn*, which refers to the sale of debt to another party. For example A, who sold a commodity to B on the basis of deferred sales, assigns the claim of his debt to C to whom A owed an equivalent debt under another contract of deferred sales. Instead of B paying to A, B can pay the debt to C because A has transferred his right to C. The buyer of the debt (B) refers to the party who accepts the payable right from A in order to pay his own debt or to the third party (C). The seller of the debt (A) may be the creditor who owns the right of payment but sold his debt to the other creditor (C).

³² Qardawi, *ibid*, p.40

The validity of *bay al dayn* is subject to four conditions. Firstly, the debt must be the price of the commodity, which is based on the deferred payment sales. The absence of a sales transaction will be tantamount to a loan with interest, which is deferred usury. Second, the debt must have originated from a valid sales contract. All conditions of sale must be fully observed. Third, the commodities sold should not involve usurious items because these items must be delivered on the spot and in the equivalent quantity. Finally, the sales of debt should be on the spot or for immediate payment. The reason behind this restriction is to avoid the occurrence of sales usury between the two debts.

All the Muslim jurists are unanimous on the principle that *bay al dayn* will not be valid unless the debt is paid in full and sold or redeemed at par value. They say that the value of a debt other than face value may be tantamount to *riba*, which is prohibited. However, they also argue that the sale of a debt to a third party or non-debtor is not allowed. Their argument is that this sale involves *gharar* elements in which the subject matter of the sale is not delivered and owned by the seller and the buyer. The Prophet said, "Do not sell a debt for a debt".

***Murabaha* Contracts**

Murabaha relates to mark-up sales, which include a profit margin over the original cost. As a financing mechanism, *murabaha* can facilitate short-term finance such as letters of credit, trade finance and working capital. *Murabaha* contracts are also relevant in the issuance of bonds. Typically this bond is a fixed income instrument with a maturity of more than one year. The *murabaha* bond issuer promises the payment of an asset over a specified period. By contrast, a conventional bond is a financial contract, or an IOU from the person or

investors to the institution that has issued the bond. An investor who has purchased a conventional bond is lending money to the institution.

There is little argument among scholars about the price differential. Some scholars argue that charging a deferred price higher than the spot price resembles *riba nasia* in which interest is charged against the time extension. Al Qurtubi argues that if the purchase price is falsified the contract is void. Imam Shafie stresses that the seller should declare to the buyer the purchase price of the goods. What is necessary is that the buyer should agree the selling price.³³

Some scholars even suggest that the *murabaha* price should be equal to the spot price in order to reflect the mixture of cash sales and interest-free loans. They argue that the profit margin can be quoted as a percentage of cost or as a fixed amount in money terms. This profit is legitimate because the trader provides the service for locating, transporting, and delivering the goods sold. The reward is not for the use of the financier's money but the sale transaction.

Some contemporary scholars argue that the underlying asset is crucial for the negotiability of bond . If the real asset dominates the debt, the bond is negotiable at market price. If the debt outweighs the real asset, the bond shall be subject to par value and shall not be negotiable.³⁴ The negotiability of the *murabaha* bond is subject to the face value. It is not permissible to trade the bond in the secondary market because such debt is tantamount to *riba* (as debt is being traded for debt). In Bahrain, the *murabaha* bond is tradable through

³³ Cited by Bank Islam (1995) , *The Guide to Islamic Banking Operations*, Kuala Lumpur p. 42 from Qurtubi, Volume 2, *Bidayat al mujtahid wal nihayat al muqtasia* and see also Hamoud (1985), *Islamic Banking: The Adaptation of Banking Practice to Conform to Islamic Law*, London: Arabian Information Ltd, p. 245.

³⁴ Muhammad al Bashir, (2000) "The Islamic Bonds Market: Possibilities and Challenges", *International Journal of Islamic Financial Services*, Volume 3, No.1, p. 3.

the establishment of a *murabaha* investment company as a subsidiary of the al Barakah Islamic Bank of Bahrain, while in Malaysia the bond is traded in the secondary market using the controversial concept of *bay al dayn*.

There is a disagreement whether the *murabaha* bond is a zero coupon bond. The profit margin agreed between the issuer and the financier represents a pre-determined income of the bond. Coupon literally means interest, which is prohibited by *sharia*. If the *murabaha* bond is considered to be a coupon bond, it implies that a profit payment is similar to an interest payment. The *murabaha* bond can be considered as an income bond rather than a zero coupon bond. The key issue is whether a coupon or zero coupon bond involves the element of interest.

Bay Muajjal Contracts

Bay muajjal basically uses the same principle as *murabaha* except that the latter is issued for short-term debts. The sales price includes profit margin and cost price. Under this concept, the issuer create a debt certificate to the financiers for financing the purchase of physical assets such as equipment, plant, or other capital goods.

A private company or public authority may arrange a syndication involving a group of financiers to purchase a certain asset. The asset is then sold back at a price comprising cost elements and a pre-determined margin of profit. In Malaysia, this debt is securitized through the issuance of primary notes and secondary notes. The primary notes represent the value equivalent to the purchase price of the assets, while the secondary notes indicate the equivalent value of the profit amount.

***Salam* Contracts**

The concept of *salam* involves a forward sale of an asset for a known spot price and the delivery of goods sold at a specified future date. The price is paid in advance so that the seller is able to undertake the production or the export or import of merchandise. The type of product is limited to fungible goods like commodities which are measurable, standardized, and unchanging in their physical attributes. However, services that can be measured in units, like electricity in kilowatts and numbers of seats for air travel, are also included.

The issuance of a *salam* bond provides an alternative to conventional bonds. In fact, the prohibition of *riba* is a rational prerequisite of an Islamic bond. The public and private sector may issue a *salam* certificate equivalent to the sales price of the specified asset or investment project. Each certificate represents a nominal value of the underlying commodity and a promise of delivery in the specified quantity for which this bond has been issued.

The contract of *salam* provides all the information required, such as the nature of the commodity, the sale price, the quantity and the delivery date. At the expiry of the subscription period, the bondholder has the right to sell the securities as agreed by the issuer in the contract. Investors can earn legitimate profits through the purchase and resale of a commodity without lending money on interest, as *sharia* prohibits *riba*.

Muslim jurists are unanimous on the permissibility of *salam* as a valid means of finance, but agree that it would be invalid as a means of speculation. They argue that *salam* helps farmers to grow their crops or traders to undertake trading despite the prohibition of *riba*. However, the *sharia* scholars have different views about the availability of the commodity and the time of delivery. The Hanafi school argues that the validity of *salam* depends upon the availability of a commodity between the date of contract and the date of

delivery. However, all the other three schools oppose this view. They argue that the validity of *salam* is subject to the availability of the commodity at the time of delivery and not at the time of the contract.

There is also some argument over the minimum period of delivery in a *salam* contract. According to the Hanafi and Hanbali schools, the minimum time of delivery should not be less than 30 days. Their justification is that a one-month period is reasonable in which to expect the seller to deliver the commodity, and price fluctuations are unlikely within that minimum period. Imam Malik suggests that the minimum period should be 14 days because the market price may change within a fortnight. Some scholars argue that the contracting parties must explicitly determine and jointly approve the delivery period. They argue that the hadith does not prescribe a minimum period for the validity of *salam*.

According to the two-tier *salam* contract, the price of the second contract may be higher than the first *salam* price but specify the same date of delivery. The price differential between the first *salam* and the second is the profit earned. On the date of the delivery, the investor may enter into a promise to sell with a third party. They can sell the commodity to the third party at an agreed price according to the terms of the promise, provided that they have already received the commodity. The appointed agent on behalf of the bondholder will receive and sell the underlying commodities in the open market at the current price. The agent may charge a small amount as a service fee on each certificate.

***Istisna* Contracts**

Istisna means a made to order item. *Istisna* represents a construction or manufacturing agreement and a promise to repay the entire construction cost including profit margin on maturity. Both payments are known as nominal value or deferred price. It is assumed that the subject matter of the contract is always a made to order item and its delivery is subject to completion.

Muslim jurists unanimously disapprove the deferment of both the goods and the price with the exception of *istisna*. The justification is that the sale object needs to be manufactured or constructed. Another reason is that the buyer also requires financing for the purchase of specified assets.

An *istisna* contract is considered complete upon the ownership transfer of the specified project. Although the delivery date is not fixed, the manufacturer or contractor must deliver the project to the purchaser when the project is fully completed. The *istisna* is irrevocable unless, after the construction, the delivered asset does not fulfil the agreed specification.

According to *sharia*, it is permissible for the contractor in *istisna* to enter into another *istisna* contract with a sub-contractor. A public authority or private company defines the project specification and invites tenders from firms or investors bidding for the contract. A financial institution may also undertake the construction of a specified investment project and sub-contract the actual work to a manufacturing or professional firm. The successful bidder who is awarded the contract has the responsibility of constructing or manufacturing the specified project.

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NUMBERING

AS ORIGINAL

ijara bonds to its client to acquire a piece of land or a building and then lease that asset to its client for say five years under an *ijara* contract³⁵. A group of investors can own the leased asset with each of them independently sharing the ownership without having any relationship with the other bondholders. For instance, an airline company may lease an aircraft and issue *ijara* bonds to several different bondholders. Each of them has an equal denomination of the leased asset and has the right to a periodic income.

In an alternative approach, all owners of a leased asset can lease together in one master contract under the same conditions. For example, a syndicate of investors may purchase office premises and rent out the entire building for say ten years. They can issue *ijara* bonds to divide up the right of ownership in the form of many certificates, each of which has an equal face value. A buyer of one or more of these certificates is technically acquiring a stream of future rental income. *Sharia* allows the bondholders to sell their *ijara* certificates to the new buyer independently of other bondholders. This characteristic is essential to facilitate the negotiability of *ijara* bonds.

³⁵ Hamdan, M.B (1996), *Corporate Financing by means of Profit Sharing and Debt Financing*, Paper presented at Seminar on Islamic Corporate Financing and Securitisation, 17-18 June 1996, Renaissance Kuala Lumpur Hotel organised by BIMB Institute of Research and Training

The process is shown by the following illustration:

Land price: RM 30 million

Total profit margin: RM 13.125 million

Selling price of the land: RM 43.125 million

Bonds issued: 60 units

Underlying assets: land and building

Loan tenure: 5 years

Rate of profit: 8.75% p.a.

Primary notes

60 primary notes of RM 500,000 each represent the cost of financing which shall all mature and be payable at the end of the tenure of the bond.

Secondary notes

Each primary note shall be supported by 10 secondary notes of RM 21,875 each, with a 6-month maturity, representing the profit margin.

All schools of jurisprudence agree that a purchaser of a leased asset must honour the *ijara* contract. The Hanbali School emphasizes that the new owner deserves the rent for the remaining duration of the *ijara* since the purchaser is now replacing the previous owner.

2.3.2.3 Profit and Loss Sharing Modes as an Alternative to Debt Securities

The variations in the application of *sharia* principles have a different financial implication. If the issuance of a bond is based on *qard hasan*, the issuers will have to guarantee the principal amount borrowed irrespective of whether it is for investment purposes or not. However, if the debt is issued through *murabaha*, the issuer who needs the financing specifies the commodity and promises a profit margin to the investor at the maturity date. If the fund is accepted according to *mudaraba*, the bond issuer may distribute the profit based on the agreed ratio to the investor. In the case of a loss, the investor will bear the loss unless it is due to the issuer's negligence.³⁶

***Mudaraba* Contracts**

Mudaraba theory assumes that the owner of capital who has little or no experience in the business sector will be in search of a commercial partnership with those who have hands-on experience but have little or inadequate capital. The purpose of *mudaraba* is to establish an economic cooperation between the capital provider and the entrepreneur in commercial activities.

³⁶ Cited by Bank Islam (1995), *The Guide to Islamic Banking Operations*, Kuala Lumpur, p. 42 from Abd al Rahman al Jaziri, (1980), *Kitab al Fiqh ala al Madahahib al Arbaah*, Volume 3, , Cairo, p. 256.

Mudaraba means the surrender of capital. *Mudaraba* involves two parties, one of whom surrenders his capital to the other in order to participate in a business venture or investment project based on profit sharing.³⁷ According to Imam Hanafi, the contribution of capital must be in the form of cash. However, Imam Malik argues that a material contribution is acceptable but it must be valued or sold for cash prior to its utilization in the partnership.

The economic relationship of entrepreneur and financier are completely different from the relationship of creditor and debtor. *Mudaraba* is based on the combination of money capital and human capital with the anticipation or expectation of profits.³⁸ It should be noted that *mudaraba* represents an equity shareholding rather than a *riba*-based lending which is on a fixed rate of interest.³⁹

Muslim jurists agree that the legality of a profit ratio must be established before the commencement of an investment, while the ownership of *mudaraba* capital remains with the financiers (*rabb a mal*) throughout the duration of the investment project or trade. Only the entrepreneur (the *mudarib*) should undertake a *mudaraba* project. It is invalid if the contract stipulates that the financier (*rabb mal*) has the duty of running of the project or business venture.

The project may be restricted or specified to a strictly defined activity in which case the *mudaraba* becomes a *mudaraba al muaqayadah*. If the capital user violates the restrictions, he is considered as a defector and becomes liable for all the risks of the project and must

³⁷ See Amin, S.H, (1986), *Islamic Banking and Finance*, Tehran: Vahid Publication, p.23, and see Al Ashker, (1987), *The Islamic Business Enterprise*, London: Croom Helm, pp. 106-107.

³⁸ Siddiqi, M. Nejatullah (1985), *Partnership and Profit Sharing In Islamic Law*, Leicester: The Islamic Foundation, UK, pp. 39-54.

³⁹ Rahman, F. (1975), *Economic Doctrines of Islam, Banking and Insurance*, London: Croom Helm, p. 348.

fully compensate the financier.⁴⁰ Both the financier and the entrepreneur will share that profit, if any, at a fixed ratio. In *sharia*, all financial losses have to be borne exclusively by the capital owner. However, it is permissible that such losses be deducted from a certain percentage of the share in revenue or from a special reserve for such a contingency.

The contract may be in the form of a two-tier *mudaraba*, in which investors pool their funds with an intermediary who subsequently deals with the entrepreneurs. The entrepreneur in the first *mudaraba* must guarantee the capital when the entrepreneur in the second *mudaraba* has utilized the capital. The ratio of profit distribution for the financier is according to the first *mudaraba* agreement, while the remaining balance of the profit is divided between the first entrepreneur and the second entrepreneur based on the *mudaraba* agreement.

Imam Malik argues that it is not necessary to get permission from the financier in order to engage in a two-tier *mudaraba*. However, he argues that the first entrepreneur should guarantee the capital and has no right to get a share of the *mudaraba* profit. The sharing of profits is between the financier and the entrepreneur in the second *mudaraba*. Shafie rejects this view. He argues that a two-tier *mudaraba* is invalid even with the permission of the financiers. If such a *mudaraba* is established, the first *mudaraba* agreement is valid and the entrepreneur in the second *mudaraba* ⁴¹is only entitled to claim for wages from the entrepreneur in the first *mudaraba*

⁴⁰ Cited by Bank Islam (1995), Kuala Lumpur, p. 95 from Dr. Wahbah al Zuhaili, *al Fiqh al Islami wa Adillatuh*, Volume 4, pp. 858-860.

⁴¹ Cited by Bank Islam (1995), Kuala Lumpur, from Al Jaziri Abd Rahman, *Kitab al Fiqh ala Mazahib al arabiaiah*, Volume 3, p. 60.

Imams Hanafi and Hanbali argue that the terms of a *mudaraba* can be restricted, whilst Shafie and Malik argue against any such restrictions. Imam Hanafi argues that in *mudaraba al mutlaqa* (non-restrictive *mudaraba*) the entrepreneur can exercise his discretion to determine any restriction.

Mudaraba bonds resemble revenue bonds because the issuers normally pledge the revenue derived from the funded project. Issuers of *mudaraba* bonds may include state or local governments for financing projects including schools, roads, and airports. The maturity of *mudaraba* bonds is limited until the completion of the project or business venture. *Mudaraba* bonds offer variable returns, which are subject to the profits made by the investment project.⁴² In other words, a *mudaraba* certificate is evidence of the investor's shares in the specified project that offer a periodic dividend payment or revenue associated with the *mudaraba* capital.

According to *sharia*, the trading of *mudaraba* bonds in the bond market is subject to three rules. First, if the *mudaraba* capital is still in the form of cash, the bonds should be exchanged on the basis of *sarf* (the exchange of money for money). Second, if the *mudaraba* capital is still in the form of debt, the bonds should be exchanged according to *bay al dayn* (exchange of debt for debt). Lastly, if the *mudaraba* capital is in the form of mixed assets, the bonds are exchanged subject to the major portion of the assets. If the major part of the assets is money or debt then the relevant rules for such assets should be observed.

In a *mudaraba* contract, the issuers have three distinct roles. First, under *al wakala* principles, the financier entrusts the issuer to manage the *mudaraba* project. Second, the issuer acts as a working partner to generate profits from the project. Finally, the issuer who

⁴² Saiful, A.R, (1999), *ibid*, p. 20.

received the *mudaraba* capital prior to the commencement of the project is subject to *al wadia* principles.

The issuer is prohibited to guarantee the financier a fixed amount of profits. In Islamic finance, if the project fails, the financier will bear all the losses. Although the issuer neither guarantees the *mudaraba* capital nor promises a return, the financial losses can be compensated by way of a third party guarantee such as by the government. This guarantee must be separated from the master agreement of *mudaraba* and be unrelated to the *mudaraba* contract.⁴³

Muslim jurists including the Islam Fiqh Academy are unanimously agreed over the prohibition of guaranteed *mudaraba* capital. However, the governments of Jordan and Pakistan have launched *mudaraba* bonds which guarantee *mudaraba* capital in full settlement of the nominal value of such bonds. These bonds clearly contravene *sharia* law because the *mudaraba* does not provide a guarantee of *mudaraba* capital as well as any fixed profit. Furthermore, these bonds recognize the bondholders as creditors who are entitled to preference over the ordinary shareholders.⁴⁴

The third party may guarantee but this must be based on voluntary commitment (*tabarru*).⁴⁵ Yousri argues that it is necessary for the government to guarantee *mudaraba* capital so as to encourage the possession of Islamic securities and to attract more Muslim investors who are still unfamiliar with Islamic bonds as compared to conventional bonds.

⁴³ Muhammad al Basher, M.A. (2000), "The Islamic Bonds Market: Possibilities and Challenges", *International Journal of Islamic Financial Services*, Volume 3, No 1, p. 9.

⁴⁴ Abdul Rahman, Yousri Ahmed. (1995), "Islamic Securities in Muslim Countries Stock Market and an Assessment of the Need for Islamic Secondary Market", *Islamic Economic Studies*, pp. 10-11.

⁴⁵ *ibid*, p. 9

Musharaka Contracts

The term *musharaka* is derived from the word *shirka* means sharing. *Musharaka* refers to sharing ownership in which all partners contribute funds and have the right to participate in the management of the project. A *Musharaka* contract is similar to the modern limited partnership and joint-stock company in which bonds correspond directly to the equity market.⁴⁶

There is some argument concerning profit distribution in *musharaka* contracts. The Iranian and Turkish governments have issued *musharaka* bonds to finance a development project in southwest Tehran and the construction of a bridge in Istanbul respectively. However, the legality of these bonds is questionable because they guarantee a return on investment whereas *sharia* law prohibits any guarantee in the cases of *musharaka* and *mudaraba* contracts.

Imams Shafie and Malik suggest that a profit can be shared in proportion to capital contribution. However, Imam Hanafi stresses that the sleeping partner must not claim a share of profits over and above the ratio of capital contribution. In contrast, other jurists argue that a share of the profits should be allocated among the partners.

According to the *musharaka* principle, the termination of the contract is permissible only through the mutual agreement of all the partners. Some jurists argue that such a condition is justified because otherwise the dissolution of a contract could arise from one of the partners who wished to quit from the partnership and not all of them. The duration of a contract may be determined within a definite or indefinite period. In permanent *musharaka*,

⁴⁶ Khan, Mukhsin and Mirakhor Abbas, (1987), *Theoretical Studies in Islamic Banking and Finance*, Jeddah: Institute for Research and Islamic Studies, p. 169.

the invested funds are not subject to repayment in the short-term, while under diminishing *musharaka* the invested funds are repaid over time according to the profitability of the project.

2.4 CONCLUSIONS

As well as the banking sector, Islamic capital markets are equally important in order to provide not only alternative funding to the conventional financial markets but also to broaden and deepen the existing *Sharia*-based financial markets. The challenge includes the development of the debt securities market within Islamic frameworks, which can offer viable products and legitimate options to both investors and issuers in the economy.

The essence of Islamic debt securities is on the premise of interest-free transactions according to *Sharia* requirements. Bond financing can be originated either from the sales of physical assets as the means for financial transactions, or from funds invested through profit sharing arrangements. These include the application of sales contracts of several types, namely *murabaha*, *salam*, *istisna* and *bay muajjal*, plus *ijara*. For example we can create *murabaha* bonds, *salam* bonds and the like, which in general represent debt instruments by which the holders are entitled to the payment of profit margins or rental income within a specified date of maturity.

The basic feature of Islamic debt securities differs from conventional debt because what is subject to contract is not merely money lending but the sales of real assets such as equipment, commodities, cars and houses. However, the price of such debt instruments is a fixed return just as with conventional bonds. The coupon rate for the conventional bond is known as interest. In contrast, although the price of Islamic bonds is pre-determined, such

returns are considered legitimate from the *sharia* viewpoint. The reward comes not from lending money but from financing the purchase of assets. In short, the return on an Islamic financial asset, in this case a bond, is derived from the return on real assets instead of on money borrowed. The debt that arises from sales transactions is *al dayn* whereas the debt that is derived from the act of lending money is called *al qard*. Any reward stipulated from a loan transaction is tantamount to *riba*, which Islam strictly prohibits.

Apart from sales contracts, *Sharia* allows the creation of financial products based on profit sharing either by way of *mudaraba* or *musharaka* arrangements. In other words, the bond can be created using these two concepts. The return on *mudaraba* and *musharaka* bonds, however, is not pre-determined like the sales-based bonds. The bondholder will receive the payment of actual profit generated from the investment project or business ventures through the sharing of profit with the entrepreneur. In the case of *mudaraba* bonds, the investor will bear all the losses, while in *musharaka* bond financing both partners will share the losses according to the capital contribution.

The Islamic thinkers can design a theoretical framework, but the developmental effort of the practitioners is needed to testify whether the debt instruments are marketable and workable in the real world. Ultimately, however, the investors, issuers, and intermediaries will determine the success of the Islamic capital market. At the end of the day, the desired Islamic instruments will rely among other considerations upon financial innovations which combine the practicality of Islamic theory, quality products, and economic benefits to the relevant users.

CHAPTER 3

THE STRUCTURE OF THE FINANCIAL SYSTEM IN MALAYSIA

3.1 INTRODUCTION

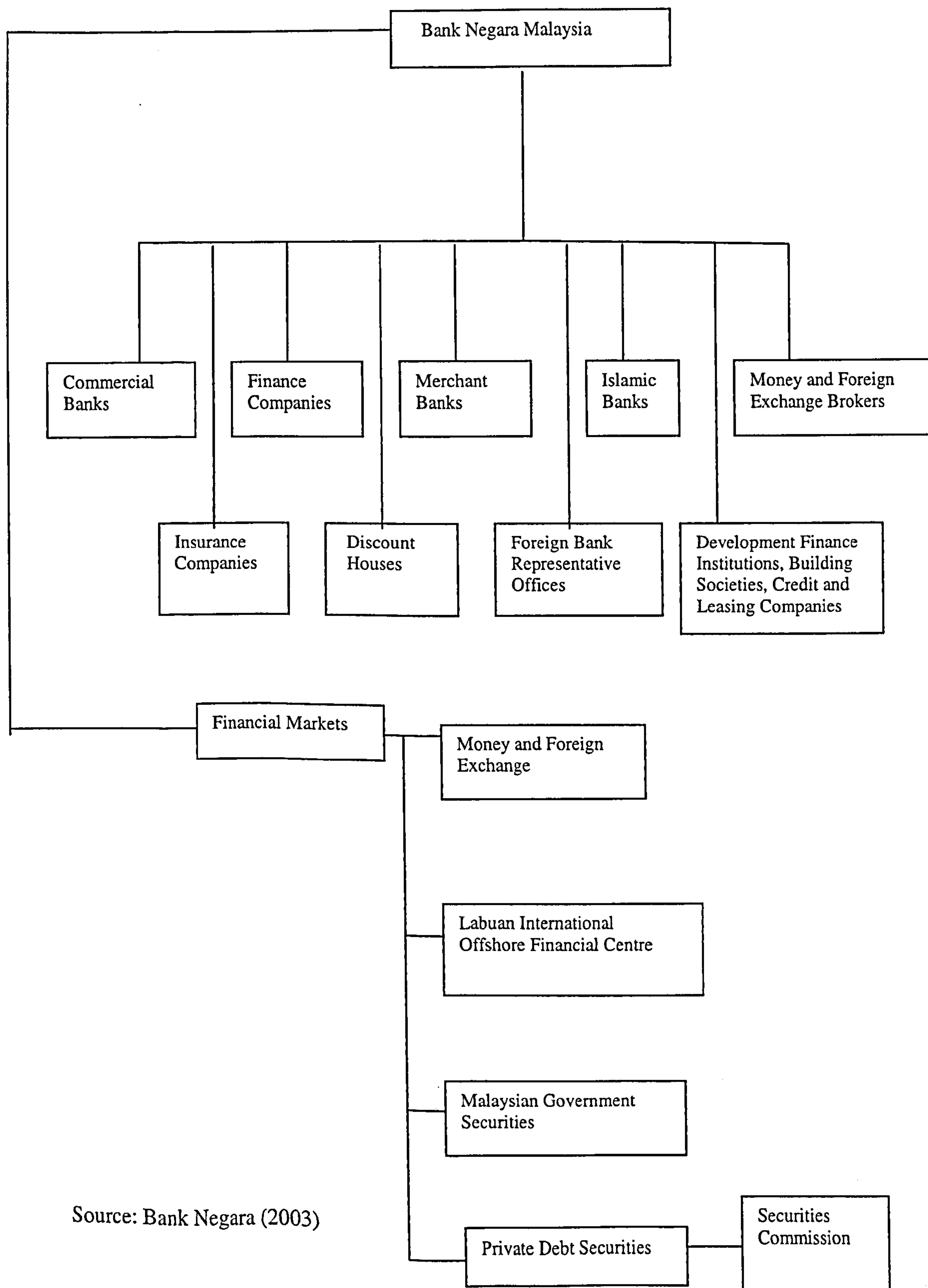
Having examined the theoretical frameworks of Islamic finance and the mode of issuing the bonds, we are now ready to examine the structure of the financial system in Malaysia. The financial system⁴⁷ has two distinct types of financial institution and four types of financial market. The institutions are divided into two broad categories, the banking sector and non-financial intermediaries⁴⁸. The purpose of this chapter is to describe the banking sector, while at the same time highlighting virtually all aspects of financial markets in the economy.

Figure 3.1 illustrates the Malaysian financial system at the end of 2003. The banking system includes Bank Negara (the central bank), commercial banks, finance companies, merchant banks, discount houses, offshore banks and the representative offices of foreign banks. The non-bank financial intermediaries comprise five groups of institutions, namely the development finance institutions, the savings institutions, the provident and pension funds, the insurance companies, and unit trusts.

⁴⁷ Financial systems comprise the functions of financial institutions and financial markets as well as financial instruments. Thakor (1998) defines the financial system as the collection of financial intermediaries and financial markets. Financial markets are institutions that operate with internal markets.

⁴⁸ The non-financial intermediaries are supervised by various government departments and agencies (see Bank Negara Malaysia, *Money and Banking in Malaysia*, Kuala Lumpur, 1989)

Figure 3.1 Financial Institutions and Markets in Malaysia, end-2003



Source: Bank Negara (2003)

The rapid changes in the Malaysian financial system since the 1970s, as reflected by the emergence of different types of financial institution and the introduction of new financial instruments, have mainly been due to rapid economic growth (Ismail, A.G., 1991; Aziz, Z.A., 1984). The financial system is largely credit-based rather than capital market-based. The major funding source for the Malaysian private sector (comprising individuals and business enterprises) has been credits from the banking sector. In 2003, the proportion of indirect financing within the total domestic private sector was about 60 percent. The remaining proportion, of 40 percent, came from direct financing (i.e. corporate securities)⁴⁹. Indeed, the banking sector is a nucleus to the financial system.

An efficient financial sector is among the major infrastructures in modern economies that are essential for development. It provides capital allocation, risk diversification and management as well as intermediation between lenders and borrowers for both domestic and international economic activities. To meet various social and economic objectives, the financial system also helps the government to finance projects for the purpose of poverty eradication, the development of the indigenous community⁵⁰ and special projects.

In addition to its role in economic development, the financial system is crucial to ensure financial stability and strengthen the financial institutions. These involve measures such as the control of inflationary pressures, maintaining asset quality and managing non-performing loans. In the context of monetary control, the government imposes the directives

⁴⁹ Total credit as at end 2003 was MYR822.1 billion, of which bank loans were MYR563.1 billion and corporate debt securities were MYR259.0 billion. See Bank Negara Annual Report (2003), Table 4.4 Direction of Credit to Private Sector p. 106

⁵⁰ Since 1975, commercial banks and finance companies were required to extend half of their new credit to priority sectors including the Malays.

on lending, governing the holdings of specified categories of assets or restricting ceilings on loan rates or deposit rates.

Indeed, these three factors, namely the changing market structures, pro-competitive regulation and new technologies in the financial services, are equally important for Malaysia, promoting an effective supervision that is geared towards a strong comparative advantage for the financial sector (Sauve and Gillespie, 2000, p. 427).

3.2 OVERVIEW OF THE BANKING SECTOR

Banking institutions are the largest and most important group of financial institutions in Malaysia. They engage in a wider range of financial activities than any other type of institution. They compete for deposits in retail markets, where they seek to attract deposits from individuals and small businesses, and in wholesale markets, where their sources are mainly companies and other financial institutions.

Banking institutions are either subsidiaries of corporate conglomerates or owned by the government / public corporations. Some commercial banks have finance companies and merchant banking subsidiaries, while some financial groups have securities trading and offshore banking subsidiaries. Maybank, the largest domestic commercial bank, is owned by Permodalan Nasional Berhad, an investment trust holding corporation.

The Malaysian banking sector is a fragmented industry. The banking system consists of the following types of institution:

| As at 31 December 2003 | Total | Local | Foreign |
|------------------------|-------|-------|---------|
| Commercial banks | 23 | 10 | 13 |
| Merchant banks | 10 | 10 | nil |
| Finance companies | 11 | 11 | nil |
| Discount houses | 7 | 7 | Nil |
| Offshore banks | 62 | 8 | 54 |
| Islamic banks | 2 | 2 | Nil |

Source: Bank Negara Malaysia, Annual Report 2003, Annex 3, p. 11. List of Banking Institutions (as at 31 December 2003)

Eleven local banks and two merchant banks have consolidated, resulting in 23 commercial banks and 10 merchant banks as of the present date. To date, four foreign-controlled finance companies have ceased operations and 24 finance companies have consolidated, resulting in the present 11 finance companies.

Among these banking institutions, demand deposit and foreign exchange operations are the exclusive business of the commercial banks, while merchant banks specialize in investment banking. Only finance companies can offer hire-purchase lending in their business operations.

3.2.1 Commercial Banks

Commercial banks play a primary role in the payments system, the most basic and crucial financial service, without which other financial institutions could not function. Since the banks enjoy interest-free demand deposits, especially from corporate clients, they face little pressure compared to finance companies.

There are presently 23 commercial banks, of which 10 are local banks and 13 are foreign-owned banks. The commercial banking business is dominated by the five largest local banks, which hold around 48 % of the market share. Two major banks, Maybank and Bumiputra-Commerce Bank, together control about 30% of market share. In terms of foreign presence in the banking sector, many foreign banks have been in Malaysia for over a century. For example, HSBC and ABN Amro established their banking businesses in this country in 1884 and 1888 respectively. In term of financial results, foreign banks are well ahead of the domestic banks.

Unlike domestic banks, foreign banks⁵¹ have been prohibited from setting up new branches since 1966, which has shrunk the banks' once dominant share in the market and seriously restricted them from mobilizing deposits. Despite this restriction, the 13 foreign banks control 25% market share of the total banking system. These successes are mainly due to superior service quality and international financial networks. HSBC, OCBC, Standard Chartered Bank and Citibank are strong players in consumer banking, while the remaining nine foreign banks are focused on international and corporate banking.

⁵¹ Since 1966 all foreign banks have had to remain one-branch banks. The central bank considers any off-premises automated teller machines of foreign banks as separate branches and may allow foreign banks to set up new branches only on a case-by-case basis. The foreign shareholding equity does not exceed 30%. All foreign banks must assist local banks to provide not less than 60% of domestic loan needs.

Many banks had a huge increase in non-performing loans (NPL) in the 1997 Asian financial crisis. Direct reasons for this include the economic downturn and the collapse of property and stock markets⁵². However, the fundamental reasons are associated with the lack of prudent banking, the deficiency in corporate governance and unhedged foreign exchange exposure (Pedro *et al*, 1998, pp.8-61). To address these problems, in the mid-1990s the central bank has taken several measures such as disclosure and monitoring, single customer limits, capital adequacy ratios and establishment of asset management companies⁵³.

Although the commercial banks play a crucial economic role, they are also ethnically controlled. The government utilizes the banking institutions as a policy instrument of wealth redistribution between ethnic Malays and non-Malays. Indeed, the government has consciously incorporated the social agenda into its monetary policies. The banking community has continued to carry out a social responsibility by narrowing the economic gap between the two ethnic groups.

⁵² In the late 1980s and 1990s, the banking problems of developing and industrial economies were associated with property lending. The credit risks arose because of the mismatch between the property market and the banks' lending. The property sector is cyclical, whereas housing loans are typically long-term. During the life of a property loan, the general level of interest rates and capital flows may adversely affect loan quality. If the capital flows reverse and interest rates increase, the risks may turn out to be acute. Exposure to the property and stock markets can be a particular risk if speculative bubbles develop as result of capital inflows (Carse, 1995, p.12).

In Malaysia, the proportion of bank financing in mortgage loans was very large in 1997, accounting for roughly 40 percent of total loans, compared with a 20 percent share in 1978. The loans suffered from high risk exposure when the property market collapsed. Many banking firms also suffered substantial bad debts and interest suspension due to imprudent share financing and fraudulent management.

⁵³ In 1998, Danamodal Nasional Berhad was established as an interim funding vehicle for banking institutions to meet the capital adequacy requirements. The entity serving as Malaysia's national asset management company, aimed to remove NPL from the financial institutions in order to maximise asset recovery. During the period between 1998 and 2001, the company injected capital into 5 commercial banks, 3 finance companies and 2 merchant banks. The majority of the capitalisation was in the form of shares or subordinated debt. About half of NPLs is related to property loans. Manufacturing loans were the second largest category of NPLs. In 1998, the breakdown of debt removed was as follows; BBMB 16%, Sime Bank 21%, Other local banks 42%, offshore banks 14% and non-banks 7%.

Prior to the 1980s the domestic banks were state-owned banks. This public ownership, however, had significantly reduced because of the privatization policy whereby these banks became privately owned banks. The ownership structure of the domestic banks notably reflects an ethnic-based banking system, as between Malay-owned and Chinese-owned. Despite the transfer of ownership, however, banks still could not afford to escape from political interference (Hill, H. 1994, pp. 832-836).

Another interesting point about the domestic commercial banking is the political bargaining of the Chinese bankers. They protested against the concentration of banking firms under UMNO's⁵⁴ control. After extensive lobbying, the ownership structure has eventually been consolidated into four large Bumiputera-controlled banking groups and two large Chinese-controlled banking groups.

The merger exercise has reduced the number of domestic commercial banks by the absorption of small banks into larger institutions. The objective of the banking consolidation is to create strong domestic banks in order to face future challenges from financial service globalization. However, the mergers have resulted in the top corporate tycoons, namely Rashid Hussein, Azman Hashim and Qeuk Leng Chan, losing their banking empires⁵⁵.

⁵⁴ UMNO refers to the United Malays National Organisation which is also the ruling party in the Federal government.

⁵⁵ Rashid Hussein of RHB Banking Group, Azman Hashim of Arab-Malaysian Banking and Qeuk Leng Chan of Hong Leong Banking Group.

3.2.2 Finance Companies

Most of the finance companies are subsidiaries of commercial banks. They complement the operations of the banks but compete with them for savings and fixed deposits. The finance companies contribute around 14% of the banking sector's assets. The principal assets of these companies are traditionally home mortgage loans and consumer loans⁵⁶. However, none of the finance companies are owned by foreign entities.

The distinctions between banks and finance companies have become blurred as the latter increasingly offer financial products that compete with those of the commercial banks. For example, the finance companies can offer a remittance service within Malaysia, including bankers' cheques, demand drafts and telegraphic transfers. They provide unsecured business loans, albeit on a limited scale, and participate in special funds established by the central bank. Some of the new services permitted are similar to those of the commercial banks such as insurance arrangements, mutual funds schemes and stockbroking services.

Finance companies consistently offer higher deposit interest rates than commercial banks. However, the interest differential between the two has not narrowed as expected by the market. In 2003, the average lending rate of commercial bank was 6.11% per annum compared to 9.11% for finance companies, while the average deposit rate between the two was 3.69% and 5.7% respectively. Yusof et al (1994) argue that the banks can not afford to offer competitive interest rates while the finance companies offer limited loans facilities. In fact, finance companies charge higher lending rates simply because they do not enjoy a

⁵⁶ In 2003 finance companies provided hire purchase amounting to some RM60.9 billion (57 percent), and were responsible for some RM4.6 billion (13.7 percent) of house financing to consumers.

lower cost of funds through current accounts and their scope of lending is limited to vehicle and consumer loans compared to the commercial banks.

Finance companies are the second most important deposit-taking institutions in Malaysia. The deposits are primarily savings and time deposits rather than current accounts. Since they are not allowed to offer demand deposits, they have mobilized funds through fixed deposits and savings deposits by offering higher interest rates than the commercial banks. The finance companies also obtain funding in the wholesale deposit markets through the inter-bank market and negotiable certificates of deposit. The key depositors in finance companies are largely individuals who account for 70 percent of total deposits, followed by business enterprises, which accounted for 25 percent of total deposits outstanding as at the end of 2003.

Finance companies contribute a major source of funds for capital investment in the economy, especially investment in vehicles, plant and equipment. Many of these capital assets are created through leasing contracts. Finance companies also provide financing to motor dealers through block discounting consumer credit agreements, and offer customers hire purchase loan facilities.

The finance companies also suffered severe losses in the mid 1990s due to the rapid increase of non-performing loans. The problems were related to the cost of their funds, which had risen steadily, while their earnings from hire purchase loans remained unchanged. MBF Finance, the second largest finance company, which suffered huge losses, was rescued by the central bank to restore public confidence.

Like commercial banks, the finance companies' sector is highly fragmented, in that the top five finance companies only have a combined market share of about 50 percent⁵⁷. These finance companies have extensive branch networks and are wholly owned by commercial banks or affiliates undertaking banking activities, which has widened their earnings base.

During the 1990s, a new interest regime was introduced to enable finance companies to determine their deposit rates and lending rates. They faced increasing competition from commercial and savings banks which aggressively entered into the deposit market and the home loans market.

The finance companies are both competitors and customers of commercial banks. In future, with the absence of division between finance companies and commercial banks, a restructuring of the deposit-taking institutions is highly sensible.⁵⁸

3.2.3 Merchant Banks

Traditionally, merchant banks emerged specifically to provide short-term credit for working capital or trade financing.⁵⁹ However, their spectrum of business has been widening into the corporate sector⁶⁰. The majority of merchant banks provide loans syndication, project financing, and revolving and term financing for businesses. In addition, they offer venture

⁵⁷ A combined market share of about 50 percent is heavily concentrated among the top five local finance companies. A further 50 percent share is fragmented among the other 19 finance companies. See *The Banker*, September 1996, p. 84.

⁵⁸ Baughn, W.H., Storrs, T.I., and Walker, C.E. (1992), *The Bankers' Handbook*, 3rd ed, Tokyo: Toppan Co., Ltd., , pp. 16-17.

⁵⁹ In the early 1970s, merchant banks were established to provide more specialised financial services that were unavailable through commercial banks, such as syndication of loans, corporate advisory services, underwriting, and portfolio management.

⁶⁰ Howells, P.G.A., and Bain, K. (1994), *Financial Markets and Institutions*, Harlow, Essex, England: Longman Publishing UK, p. 91.

capital financing to high risk businesses and offer fund management services through their subsidiaries of property trusts and unit trust funds.

The distinctions between commercial banks and merchant banks⁶¹ have diminished as the former have responded to competition from the corporate loan market by increasing corporate finance, providing management of consortium loans, and project financing. Discount houses have also increased their market share in corporate financing at the expense of the merchant banks and they are expected to continue this intrusion.

Unlike the universal banking in Germany, merchant banks in Malaysia are restricted by being able to offer only investment banking⁶². They are also geographically confined. Indeed, all merchant banks are based in Kuala Lumpur city where the country's major financial institutions are headquartered. The ten merchant banks represent the third largest set of financial institutions with a 6% share of the banking sector's assets. Nine of the merchant banks are owned by commercial banks and the tenth by Amanah Merchant Bank. The largest is Arab-Malaysian Merchant Bank with 40% market share of merchant banks'.

The three major merchant banks dominate with around 44% market share of the merchant banks' loans. For example, Arab-Malaysian Merchant Bank and Commerce International Merchant Bank control 37% and 6% market share of total loans respectively, while RHB-Malaysian Merchant Bank has a 1% market share of total loans.

⁶¹ See Bank Negara Malaysia (1999), *The Central Bank and The Financial System in Malaysia-A Decade of Change*, Kuala Lumpur.

⁶² Greenbaum, S.I., and Thakor, A.V. (1995), *Contemporary Financial Intermediation*, Orlando, USA : The Dryden Press.

Prior to 2002, eight merchant banks had foreign shareholding participation. The foreign shareholders included ANZ, Barclays, Bank Paribas, Dai Ichi Kangyo, Dresdner Bank, Fuji Bank, HSBC, Kleinwort Benson, Sakura-Mitsubishi Bank, Sanwa Bank and Tokai Bank. However, there is no US shareholding in the merchant banks.

3.2.4 Islamic Banks

The Islamic banking system consists of an array of banking firms⁶³. In 1983, Malaysia established a dual banking system in which Islamic banking emerged alongside conventional banking. The Islamic banking system is currently channelled through two types of bank: specialized Islamic banks and Islamic windows⁶⁴. There are two specialized Islamic banks, namely Bank Islam Malaysia and Bank Muamalat⁶⁵ and these banks are regulated under the Islamic Banking Act of 1983 (IBA). By contrast, Islamic windows are licensed under the Banking and Financial Institutions Act of 1989 (BAFIA) and they are part of the Islamic banking system.

As the name implies, an Islamic banking system provides financial services within the *sharia* law, while conventional banking is based on *riba*, which Islam prohibits. Interpreting the system as “interest free” tends to create confusion. Islamic windows denote the dual functions of conventional banks offering Islamic banking and conventional banking.

⁶³ Since 1983, commercial banks have been allowed to offer Islamic banking services; eventually, finance companies, merchant banks and discount houses were allowed to offer the same services. To date, there are 24 financial institutions offering Islamic banking services as follows: 9 commercial banks, 2 Islamic banks, 5 finance companies, 5 merchant banks and 3 discount houses.

⁶⁴ Specialised Islamic banks refer to commercial banks and financial intermediaries that are structured wholly on Islamic principles performing only with Islamic instruments. Islamic windows are the exclusive channels provided by conventional banks and financial intermediaries for Islamic banking facilities.

⁶⁵ Following the merger between Bank Bumiputra Malaysia and Bank of Commerce, a second Islamic bank was set up in 1999.

The operations of Islamic windows mix the doctrines of Islam so that *halal*⁶⁶ activities can intermingle with *haram*⁶⁷ ones. The system can be fully acceptable only in the context of Islamic teachings on purification of interest and without intermingling two contrasting systems. In an Islamic system, banks operate predominantly on a non-interest basis. This unsympathetically precludes the use of conventional banks as intermediaries to perform Islamic banking services.⁶⁸

The philosophical foundation of Islamic banking goes beyond conventional banking that is focused primarily on the economics and financial aspects of transactions, and emphasizes multi-dimensional aspects which include ethical, social and religious values (Iqbal, 1997).

Nevertheless, this also denotes a filtration process that seeks to Islamize conventional intermediaries into Islamic entities. The objective of this filtration process is to ensure that the operation and capital structure of each business are *sharia* compatible; also to discontinue companies engaged in prohibited activities and avoid dealing with interest⁶⁹.

Although the *sharia* injunction is a central characteristic of an Islamic banking system, Islamic banks essentially perform the same banking functions as the conventional system (Presley, 1988). They administer the economy's payments system and satisfy

⁶⁶ *Halal* means permitted according to Islamic law. The economic activities which conform to Islamic rules and norms include legitimate and honest trading and business.

⁶⁷ *Haram* means forbidden according to Islamic law. The production of goods and services are prohibited if they contradict the values of Islam, and these include *riba*, gambling, alcoholic beverages and pork meats.

⁶⁸ Khan (1986) and Lewis, M and Algoud, Latifa M (2001) noted that the distinction between a *halal* bank and an Islamic bank has been derived from the activities of the institutions. A *halal* bank is a financial intermediary, which provides commercial banking services on the basis of the interest-free concept. An Islamic bank is a financial institution that operates a full range of commercial banking services according to Islamic rules and norms.

⁶⁹ Iqbal, Z., (1997), *Islamic Finance Systems*, Oxford University Press.

financial needs through the transformation of their deposit liabilities into a variety of assets and loan portfolios to suit the needs of investors. As does the conventional system, Islamic financial intermediaries exploit efficiently and economically the imperfections in the financial markets (Stigler, 1964).

The idea of an Islamisation of the banking system within which the conventional banks offer *sharia* banking through Islamic windows contradicts the paradigm of Islamic economics. Although an Islamic window does not involving interest transactions, the core business of the host bank is predominantly based on interest, which in the context of an Islamic framework is not permissible.⁷⁰

The concept of Islamic windows being open alongside the fully-fledged Islamic banks is also inconsistent with the existing banking regulations. The Islamic Banking Act of 1983 (IBA) separated Islamic banking from conventional banking, thus limiting the financial business of the two types of bank. IBA defined an Islamic bank as an institution where its operations are approved by the religion of Islam. In contrast, BAFIA defined the conventional bank as an institution which received deposits and lent money by way of interest transactions.

⁷⁰According to Islamic economists, the key macroeconomic features of an ideal Islamic economy constitute seven elements These include the abolition of interest, the introduction of profit sharing, the application of *zakat*, the absence of the production of goods and services which contradict the values of Islam (*haram*), the avoidance of economic activities involving gambling and uncertainty, the avoidance of wasteful consumption and the establishment of *takaful* (Nomani, Farhad and Rahmena, Ali. and Lewis, Mervyn and Algaoud, Latifa M., 2001, p.103).

The fully-fledged Islamic banks are facing stiff competition not only from the Islamic windows but the conventional banks as well. Although the Islamic banks are the anchor Islamic institution, the Islamic windows grab a lion's share of the assets, accounting for 70 percent of the total Islamic banking assets in Malaysia at the end of 2003.

But there is also growing competition between Islamic banking firms and non-banking firms, namely the cooperative banks, as they enter the Islamic deposits and housing loans markets; and from the national savings bank as the federal government has used this bank more aggressively as a means of offering Islamic banking facilities.

3.2.5 Discount Houses

Since 1963, discount houses have been the primary financial specialists aiming to manage funds and financial instruments in the short-term money markets. Discount houses also provide funding to the government through the purchase of treasury bills and government securities. The primary roles of discount houses include provision of short-term investment avenues for corporations, government agencies and other enterprises, meeting the needs for liquidity within the banking system and facilitating operation of the secondary market.⁷¹

⁷¹ Discount houses accept surplus funds in the form of short-term deposits, call and overnight deposits and invest in the money market through instruments such as treasury bills, government securities, bankers acceptances and negotiable instruments of deposit.

Prior to 1990, discount houses were restricted to investing in securities with maturities of five years or less. However, following the abolition of this restriction in 1990, discount houses can structure their portfolio (subject to the adequacy of capital on a risk-weighted basis) and can invest in securities with maturities of up to ten years.

The monopoly power of discount houses (from 1963 to 1989) in government bonds was eroded ever since banking institutions can act as a principal dealer in 1990. However, this reform weakened the discount houses' performances still further. For example, in 1990 and 1991 discount houses suffered losses of RM14.2 million and RM9.1 million respectively. Discount houses turned around in 1993, recording a profit of RM23.2 million.

The demarcation of roles between discount houses and merchant banks is also blurring. Discount houses can underwrite private debt securities as the merchant banks do. They are expanding their operation in the growing Islamic debt securities market and venturing into short-term Islamic instruments to offer more competitive products similar to those of the merchant banks.

In terms of the consolidation of the banking sector, the central bank has yet to discontinue the licenses of the discount houses. This is mainly due to the low value added services that would accrue to the financial system. There are seven discount houses which are all locally owned. The original plan was for them to be absorbed either by the commercial banks or the merchant banks not later than 1998. Due to the banking sector's problems, however, the termination of the discount houses has been postponed.

3.3 OVERVIEW OF THE FINANCIAL MARKETS

Financial markets involve financial institutions of various kinds and the transaction of financial instruments. Typically, financial markets bring together lenders and borrowers or savers, and investors and trade financial instruments.

There are various types of financial market which include the money market, the foreign exchange market, the capital market and the offshore market. Four major types of financial product are stocks, bonds, derivatives and money market instruments.

Each type of financial instrument differs in term of maturity period, the type of issuer, the type of yield and the risk. Money market instruments represent debt obligations that have original maturities of less than one year, which are traded in the money market, while capital market instruments, such as bonds, equities and warrants, have a tenure of one year or more and are traded in the capital market.

3.3.1 Money Market

The speciality of the money market is short-term liquid investments with a maturity period of one year or less. The instruments include treasury bills, repurchase agreements,⁷² commercial papers, bankers' acceptances, negotiable certificates of deposit and government securities. The money market brings together investors with an excess of funds and borrowers with a shortage of funds. The five major players in the money market are the central bank, commercial banks, discount houses, merchant banks and finance companies.

⁷² See page 467, Baughn, W.H., et al., 1992, *The Bankers' Handbook*, 3rd ed., Tokyo: Toppan Company Ltd. Repurchase agreements are more commonly called repos. A repo is the acquisition of funds through the sale of securities with a simultaneous agreement by the seller of the securities to repurchase them at a specified price on a specified date. The short-term effect of the two simultaneous transactions is to create a secured loan with a guaranteed buy back of the collateral supporting that loan.

Brokers and dealers offer broking services to facilitate the buying and selling of financial instruments.

The dependability of inter-bank deposits is higher than that of money market papers for meeting funding and liquidity needs in the market.⁷³ Inter-bank deposits refer to the movement of short-term funds between financial institutions which mobilise deposits from the surplus units to the deficit units. Money market papers refer to the sales of money market securities and direct borrowing from the central bank. Firms and governments can meet their funding needs through the sale of money market securities and direct borrowing. Commercial banks utilize the money market for funding their activities by issuing negotiable certificates of deposit (NCD), entering repo agreements and selling banker acceptances (BA).⁷⁴

Many banks hold money market instruments for liquidity rather than yield. They maintain their liquid assets to meet potential deposit withdrawals and to meet potential increases in loans demand. Insurance companies and mutual funds participate in the intermediation of the economy by matching investors and qualified borrowers.

⁷³ According to the Bank Negara Malaysia, the volume of transactions in the money market had increased significantly in 2003. The increase was due to improving corporate performances which reflected the strong financial position. The inter-bank funds rose significantly whereas the money market papers had increased marginally in 2003. The increase in money market instruments was due to the increased market preference for fixed income. In 2003, the yield on government papers and the investment in money market papers was relatively higher than the yield on inter-bank deposits. However, the trading volume of inter-bank deposits (RM1084.7 billion) was about two times the trading volume of money market papers.

⁷⁴ Demand deposits are money accepted by the banks that can be withdrawn on request. In contrast, time deposits are funds placed in various types of financial institution that can be withdrawn typically at the maturity date.

In many developing economies, the deterrent factors on money market development are interest rate ceilings, central bank discount facilities and taxation. Interest rate ceilings deter negotiation among the banks concerning inter-bank rates. Central bank discount facilities can depress the money market by reducing the cost and intensifying the supply of short-term funds. The taxation of financial transactions contributes to the extremely high pricing of overnight money (Fry 1988, p.292).

In Malaysia, money market development is impeded by three factors: inadequate market infrastructure, limited range of instruments⁷⁵ and an inefficient pricing system. In order to deepen the money market and to enhance liquidity in the secondary market, the central bank has taken various measures which include the deregulation of interest rates, introduction of electronic funds transfer, promotion of the secondary market and the creation of a market-based pricing mechanism.

3.3.2 Foreign Exchange Market

The main component of the foreign exchange market is spot and forward currencies trading. The spot market involves the trading of currencies for immediate delivery with a normal settlement period of two business days. By contrast, the forward market deals in trading beyond the normal settlement times for currency exchanges. The forward market predominantly agrees swap transactions whereby two parties deal in foreign currencies now in order subsequently to exchange other currencies at a specified future date. The typical trade size is USD 3 million or more.

⁷⁵ Fry (1988) argues that a wide range of financial instruments encourages more savings and more investment in the economy. However, the developing countries should adopt a modest approach regarding financial instruments in their financial development policy to avoid the negative impact of the proliferation of instruments.

Historically, prior to 1972, the pound sterling dominated the Malaysian foreign exchange market. However, the market domination of the US dollar had reached nearly sixty percent since 1973 in terms of trading volume. In 2003, 80 percent of foreign exchange transactions were US dollar against *ringgit* according to Bank Negara Malaysia .

Inter-bank trading is the wholesale market, providing enormous liquidity to the market. Most inter-bank foreign exchange trading is in US dollars involving international trade settlements and capital flows. In the inter-bank market, many banks are involved in the sale and purchase of foreign currencies to help importers and exporters. The banks also trade directly with each other within a credit limit in the inter-bank market.

Although commercial banks remain the key players in the foreign exchange market, there are eight money brokers participating in foreign currency transactions. Electronic foreign exchange systems such as Reuters Direct Dealing Screen and Dow Jones/Telerate are also common in Malaysia.

There are also retail markets in which firms, finance companies and money-changers engage in the foreign exchange market. Firms that are involved in international trade usually arrange their foreign exchange transactions through their bankers, while large multinational corporations normally arrange their foreign exchange through their treasury operations to finance their trading and manufacturing activities. Nevertheless, the central bank interferes from time to time to influence the exchange rate and control the exchange risk.

During the 1997 financial crisis, the trading volume of foreign exchange was inflated to between USD50 million USD100 million. A key reason was panic selling by corporations, banks and mutual funds following the currency attacks. However, by 1998 the trading

volume had declined by 32 percent as the government introduced selective exchange controls and introduced a fixed exchange control rate against the US dollar.

The appetite of domestic banks and trading activities has been rather more towards inter-bank transactions than cross-border transactions. The latter transactions refer to trading in deposit taking, loans, shares and derivatives in *ringgit* related activities beyond the geographical borders of Malaysia.

The offshore *ringgit* transactions are not as dominant as inter-bank transactions. The demand for the offshore *ringgit* market includes non-residents' activities such as currency trading, hedging, trade settlements and speculation. Notwithstanding this, the development of the offshore *ringgit* market was promoted through the trading of Malaysian shares listed on the Stock Exchange of Singapore, which unfortunately had ceased since September 1998 following the regional financial crisis (Bank Negara, 1999).

In Malaysia, the foreign exchange market is also characterised by administrative measures to curb speculative transactions that have had a hostile impact on the foreign exchange market. These measures include the restriction on non-trade related swaps and outright transactions, the control of inflow of foreign funds into banking institutions, and the fixing of the *ringgit* exchange rate against the US dollar.

3.3.3 Capital Market

Capital market development is crucial for economic growth. A highly developed capital market can facilitate an economic expansion through the mobilization of savings, the promotion of direct and financial investments, and provision of the long term financing needs of the private and public sectors.

Malaysia's capital market constitutes the second largest provider of long term financing needs for the economy, next to the banking system. The capital market has the broadest base of investors and increasingly provides the financial resources for the economy.

Although funds raised from the capital market are relatively inferior to the banking market, they have expanded abruptly in recent decades because of the deceleration in banks' loans demand and the steady growth of government securities. According to Bank Negara, the ratio of net funds raised by the capital markets to net bank credit rose sharply from 0.6 in 1988 to 3.2 in 1998.

Malaysia's capital market is divided into two broad sectors, public sector and private sector. The public sector includes government agencies and federal institutions. The most common types of public debt are government issues such as treasury bonds, khazanah bonds, Malaysian Government Securities (MGS), Government Investment Issues (GII) and savings bonds.⁷⁶ The private sector raises funds through the issuance of shares, warrants and corporate bonds including commercial papers.

⁷⁶ In 2003, the total outstanding government debt was around RM150 billion. Of the total debt, it is estimated that RM10 billion was held by government agencies, RM85 billion by pension funds, RM19 billion by the banking institutions, and the insurance sector held RM12 billion. MGSs constitute 70 percent market share and the rest is accounted for by GIIs and savings bonds.

The percentage of the total funds raised as against government debt has shrunk rapidly. This notable trend was mainly due to the impact of the privatization policy that enhanced the corporate sector's involvement in the national development and the downsizing of government operations as part of the mechanism to minimize the growing fiscal deficit.⁷⁷

The major holders of government securities include pension funds, commercial banks and insurance companies. As a regulatory requirement, these institutions must invest a certain portion, or in some cases a significant portion, of their funds in MGS and GII. They nearly always hold these instruments until maturity.

More than sixty percent of funds raised are arranged through the private sector. The sector has outperformed the public sector. In recent years, Malaysian firms have mostly used corporate debt rather than equities as a source of financing.⁷⁸

The equity market encompasses common stocks, preferred stocks and warrants, while the corporate bond market includes private debt instruments with maturities of more than one year such as straight bonds, asset-backed cagamas bonds, convertible bonds, bonds with warrants and Islamic bonds.

The emergence of equities in the country was largely associated with three major developments in the stock market. First, following the introduction of the Second Board on Kuala Lumpur Stock Exchange in 1988, the funds mobilization of the corporate sector had

⁷⁷ During the period 1988-1999, government debts constituted only 30 percent of the total funds mobilised compared to 80 percent during the period of 1980-1987. In 2003, the share was 50 percent. Of the total outstanding, there were RM130 billion MGSs, RM7 billion GIIs and RM13 billion Bank Negara Bonds.

⁷⁸ The equity market raised RM7.8 billion whereas the corporate bonds market raised RM50.9 billion in the most recent year.

become intensified in the market. Second, owing to the listing of major privatized corporations on the stock exchange, the market capitalization was further advanced. Third, the strong Malaysian economic performance had spurred new companies to list their stock, as well as leading to massive inflows of short-term capital to the economy.

Malaysia's stock market was ranked 23rd in the world and 7th in Asia and was one of the liquid markets (65 percent) according to the International Finance Corporation (IFC). Kuala Lumpur Stock Exchange (KLSE) consisted of more than 900 listed companies in 2003.

However, the stock market had a bad experience with the Asian financial crisis in the 1990s. For example, market capitalization shrunk to RM186 billion in September 1998 after the peak of RM891 billion in February 1997. The market capitalization had rebounded to RM500 billion by the end of October 1999. The market capitalization at the end of 2003 was RM640.5 billion.

Initial public offers and rights issues are the most popular modes of corporate capital in Malaysia. In recent years, more than half of the equity has been raised through initial offers compared to 30 percent through rights issues.⁷⁹

⁷⁹ IPO raised new funds of around 51 percent of the total funds of RM7.8 billion in 2003 while rights issues represented 30 percent.

Rights offerings for financing acquisitions in the USA have diminished, but the use of rights issues is still a popular method of raising new equity capital in Japan where the proportion of rights offerings ranges between 19 and 96 percent (McInish, 2000 p. 170).

Malaysia's corporate debts are generally underdeveloped and relatively less sophisticated than equities and government bonds (Bank Negara, 1999). Market capitalization of private debt securities was only 0.5 percent of the country's GDP. On the other hand, stock market and government debts were 90 percent and 60 percent of the national income respectively in the late 1980s.⁸⁰

Nevertheless, Malaysia's private debts segment has recently been among the fastest growing markets in the financial sector.⁸¹ This is due to various major developments that affect the bond market, such as the change of fiscal policy towards the private sector's role in economic development, the relaxation of minimum debt issues and the investment restrictions as well as the downgrading of investment ratings⁸². Furthermore, the debt issuers were exempted from the prospectus requirement on new issuance. The growing demands from sophisticated corporate borrowers have also encouraged the issue of bonds.

⁸⁰ McKinnon (1986, pp. 24-27) concludes that the absence of bond and equity markets in developing economies is primarily due to over-reliance on the banking sector for financing capital needs. The interest rate policies in many less developed countries can influence the development of bond markets. For example, low bank loan rates may dishearten business firms from issuing any bonds because the intermediation costs are relatively cheaper than the direct transaction costs (Tun Wai and Patrick, 1973, pp. 283-284).

⁸¹ According to Bank Negara Malaysia, the PDS market grew from RM395 million in 1987 to RM75.4 billion in 1998. In 2003, the growth rate was 14.4 percent amounting to total outstanding of RM170.2 billion due to ample liquidity and low interest rates.

⁸² The central bank made some major changes in corporate debt issuances including the reduction of minimum debt issues from RM50 million to RM25 million, and the downgrading of the investment grade rating to BB from BBB (BBB for long-term papers and P3 for short-term papers). McInish (2000) argues that the downgrading of an investment grade rating to speculative grade (junk bonds) is often associated with the bad image of the firms. He stresses that although junk bonds are the most popular source for US firms, especially for financing acquisitions, these bonds had the most default cases. He further argues that the issuance of junk bonds reflects on the firm's poor performance.

Until the late 1980s, the financial instruments in the PDS market were largely confined to fixed rate cagamas bonds and straight bonds, and private firms were only marginally able to raise the necessary finance by these instruments. The proliferation of debt securities provides wider alternatives for the private sector in view of their sophisticated financial assets. The spectrum of instruments generally includes warrants, convertible bonds, Islamic debt securities, floating rate bonds, zero coupon bonds, bonds with step up coupons, bonds with detachable coupons and bonds with call/put options.

3.4 CONCLUSIONS

The evolution of the Malaysian financial system was shaped in response to market failures and economic circumstances. Following the 1997 Asian financial crisis, the banking system had been consolidated through the merger of domestic banking institutions. During the crisis, the health of certain banking institutions and discount houses had been adversely affected. Such problems were resolved by the central bank through the introduction of a rescue plan and the consolidation of the banking sector.

The rapid changes in Malaysia's financial system during the 1990s, as reflected by the emergence of Islamic banking and the introduction of Islamic financial instruments, were primarily due to the rapid economic growth. The 1990s became a period of consolidation for the domestic commercial banks and finance companies. This was to meet changing domestic economic needs and future challenges from globalization and liberalization in a world economy.

To summarize the characteristics of the Malaysian financial markets, three points can be made. First, the money market provides profitable investment and liquid assets. Money market development is hindered by inadequate market infrastructure, a limited range of instruments and an inefficient pricing system. The market depends heavily on banking institutions for its funding needs.

Second, Malaysia's corporate debts are generally underdeveloped and are relatively less sophisticated than equities and government bonds. The PDS market is largely confined to fixed rate cagamas bonds and straight bonds. Indeed, the proliferation of debt securities is needed to provide wider alternatives for the private sector with sophisticated financial assets.

Lastly, the Islamic banking system has emerged to provide an alternative to conventional banking. The system covers crucial parts of banking institutions as well as a financial market based on the interest-free concept.

CHAPTER 4

THE ISLAMIC BOND MARKET IN MALAYSIA

4.1 INTRODUCTION

We discussed the financial sector and financial markets of Malaysia in Chapter 3. In this chapter, we will look at some of the bond market structures and the main challenges in Islamic bonds issuance. Our overall aim is to appreciate the major components and key issues regarding the Islamic bond market. In this chapter we:

- Examine government and private debt securities
- Describe the type of bonds issued
- Identify the main problems associated with Islamic bonds

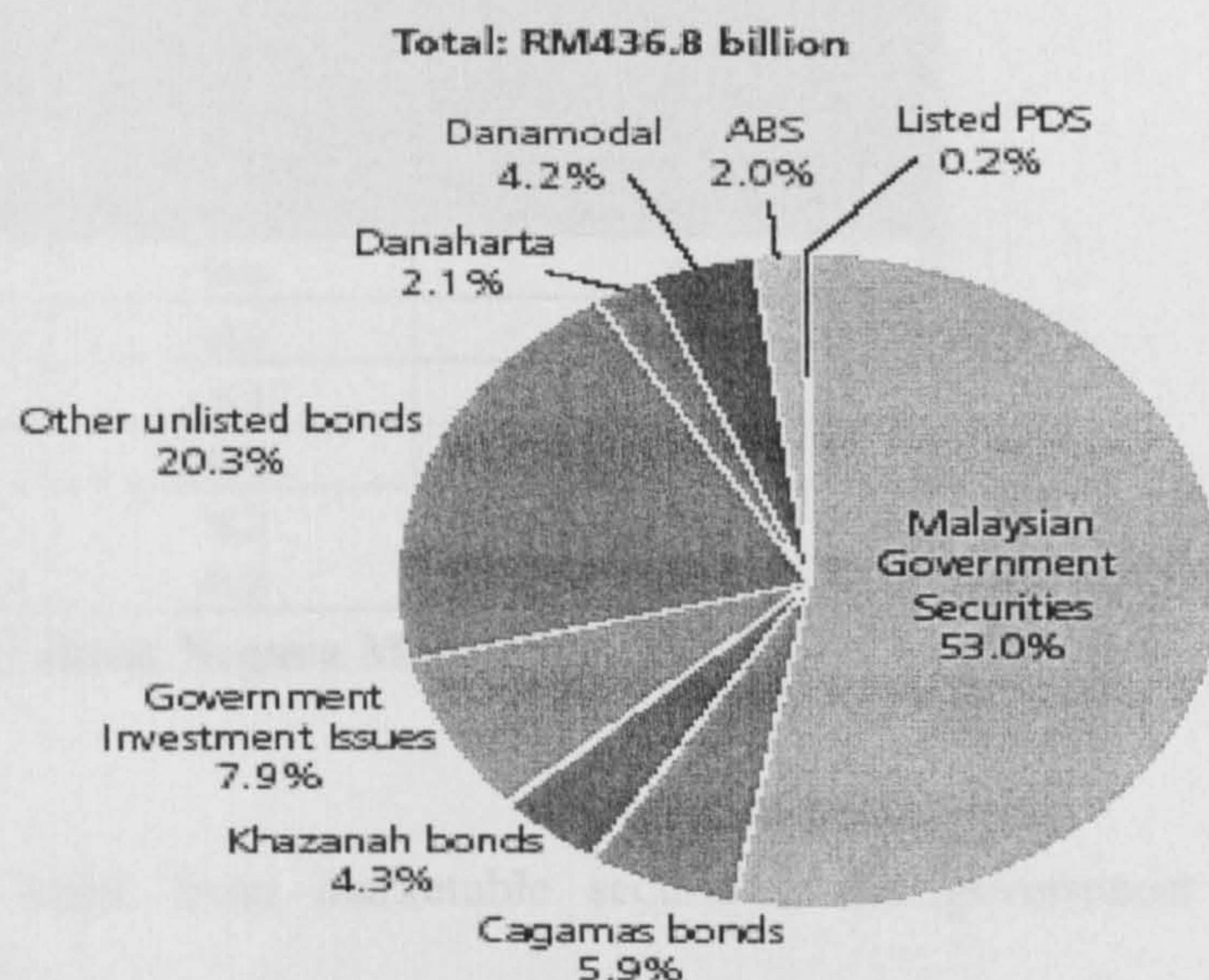
The vast majority of borrowing by the Malaysian private sector is from the banking system rather than through bonds or commercial papers. However, Islamic corporate bonds accounted for around 50 percent of total outstanding bonds in 2003⁸³.

During 1994-1999, the issuance of corporate bonds was mainly related to the recapitalization of ten banking institutions which were adversely affected by the Asian financial crisis⁸⁴.

⁸³ Total PDS outstanding as at end of 2003 was RM150.2 billion (Bank Negara Malaysia Annual Report 2003).

⁸⁴ Danamodal Malaysia Berhad issued RM7.6 billion to rescue the banking sector according to the 2002 Bank Negara Report. The issuance of corporate bonds increased from RM9 billion in 1994 to RM16.1 billion in 1997 and to RM111.8 billion in 1999.

Figure 4.1: Turnover of Selected Debt Securities, 2003



Source: Bank Negara Malaysia

4.2 STRUCTURE OF THE ISLAMIC BOND MARKET

4.2.1 Government Investment Issue (GIIs)

Malaysia's marketable securities⁸⁵ of government debt include Malaysian Government Securities (MGSs) and Government Investment Issues (GIIs). They constitute about 99 percent of the outstanding government debt. Both MGSs and GIIs are issued by the federal government to facilitate the liquidity needs of the banking system. The original maturity of both instruments normally exceeds one year. Table 4.1 shows that the total number of MGSs raised is more than 20 times greater than the number of GIIs.

⁸⁵ Stuhldreher (1992) divides the government securities into two categories: marketable and non-marketable. He argues that the government marketable debts must include treasury bills, treasury notes and treasury bonds.

Table 4.1: Bonds raised by government issues (1998-2003), in RM billion

| Year | Malaysian Government Securities (MGS) | Government Investment Issues (GII) |
|------|---------------------------------------|------------------------------------|
| 1998 | 15.0 | 0 |
| 1999 | 10.0 | 2.0 |
| 2000 | 16.4 | 2.0 |
| 2001 | 23.4 | 1.8 |
| 2002 | 16.3 | 2.7 |
| 2003 | 41.2 | 1.7 |

Source: Bank Negara Malaysia

Apart from marketable securities, the government also issues non-marketable securities which are primarily conventional savings bonds and Islamic savings bonds. The objective of savings bonds issuance is to promote household savings through investment in bonds especially among senior citizens and registered charity organizations. These savings bonds are non-negotiable and non-transferable with a minimum denomination of RM1,000 per certificate. An Islamic savings bond is also issued under the concept of *bay al inah* (sell and buy back agreement) with a maturity period of two years and an annual rate of return of five percent.

Historically, government bonds have dominated the bond markets, constituting roughly 80 percent of the outstanding amount. The main reasons behind the government's supremacy were the regulatory requirements of banking institutions, the investment portfolio restrictions on pension funds and the statutory liquidity of the conventional banks.

However, this domination over the bond markets has slid, with the government's share declining to 50 percent over the past two decades. The decline of government bonds was due to the downsizing of government operations. By contrast, during the expansion of

the economy (1988-1996) the issuance of corporate bonds was intensified in order to mobilize funds for privatization flagships.

As the 2003 market had an abundant surplus of liquidity, the federal government issued RM41.2 billion in MGSs and RM1.7 billion in GIIs. However, the private sector had raised RM50.9 billion and RM7.7 billion through corporate bonds and shares respectively during the same year.

Government Investment Certificates (GICs) represent the prominent role of public sector funding through the issuance of non-interest-bearing certificates, now renamed as Government Investment Issues (GIIs)⁸⁶. Under the Government Investment Act of 1983, the Malaysian government is empowered to issue liquid papers to enable the Islamic banks to meet statutory liquidity, since the banks cannot purchase or trade in interest-bearing instruments such as MGSs, treasury bills, etc.

Under the *qard hasan* principle, institutions or individuals provide benevolent loans to the government so that it can undertake projects for the benefit of the nation through the purchase of interest-free bonds. The GIIs differ from MGSs or treasury bills in that they neither promise investors pre-determined interest nor profit sharing. Instead, the repayment of the principal borrowed is guaranteed in full at the maturity date. In practice, the Dividend Committee (comprising representatives from the Ministry of Finance, the central bank, the Economic Planning Unit and the Religious Affairs Section) will recommend the rate of return for the GIIs. Since the bonds are non-tradable instruments in the secondary market,

⁸⁶ The word *investment* is customarily but confusingly used for the bonds. GII implies that the profit sharing is discretionary, and is associated with benevolent loans rather than financial investments. Despite its name, this bond is actually a straight loan (*qard*) where the government has the obligation to pay back the principal amount in full at the maturity date. However, in practice the Government does reward the bondholders with a monetary payment on the funds borrowed.

the central bank facilitates the bondholders to sell or investors to purchase and determines the pricing of such papers.

GIIs serve to meet the short-term liquidity requirements of the Islamic banking system and interest-free government borrowing for development projects. On the other hand, MGSs serve the same needs under the conventional banking system. Since 1990, the pricing of MGSs has been altered from the central bank-fixed price to the market-determined price, which is calculated from the weighted average yield of the successful bids at the MGS auction. The pricing of GIIs is simply dependent upon the dividend rate declared by the government but is usually guided by the returns on conventional bonds.

Khazanah Bonds

Khazanah bonds refer to Islamic treasury bonds with maturities longer than ten years. The objective of these bonds is to act as a benchmark yield for the bonds market and to provide an alternative to zero-coupon bonds without involving interest.

These bonds offer a fixed return in the form of profit from mark-up sales. In general, the bonds consist of two elements of Islamic trading, namely the concepts of *bay al inah* (buy back agreement) and *bay al dayn* (debt trading). In order to finance the purchase of specified assets, Khazanah Nasional Berhad acts on the investors' behalf for the purchase of the assets and will then buy back the same assets from the investors at a price that includes a profit margin. Khazanah Nasional Berhad, a subsidiary of the Ministry of Finance, issues zero coupons under the principles of *murabaha*. They also securitize the debt through the issuance of a debt certificate that settles the price of specified assets at a determined future

date. In short, the debt made is converted into the investment instruments in the form of khazanah bonds.

The bonds are negotiable and tradable using the concept of *bay al dayn*. Bondholders can either redeem their debt certificates at face value on or before the maturity date or sell the instruments in the secondary market to receive cash. Upon maturity, the issuers will pay to the investors the price of the specified assets inclusive of the profit margin.

4.2.2 Private Debt Securities

Islamic private debt securities are the newest sector, introduced in the late 1990s. The emergence of Islamic corporate bonds is in line with the growing role of Islamic banking and the increasing demand for financing in the private sector. Corporate bonds are long-term debt obligations issued by corporations to meet their financing needs through term bonds, medium-term notes and commercial papers.

Table 4.2: Bonds raised by the private sector 1998- 2003
(In RM billion)

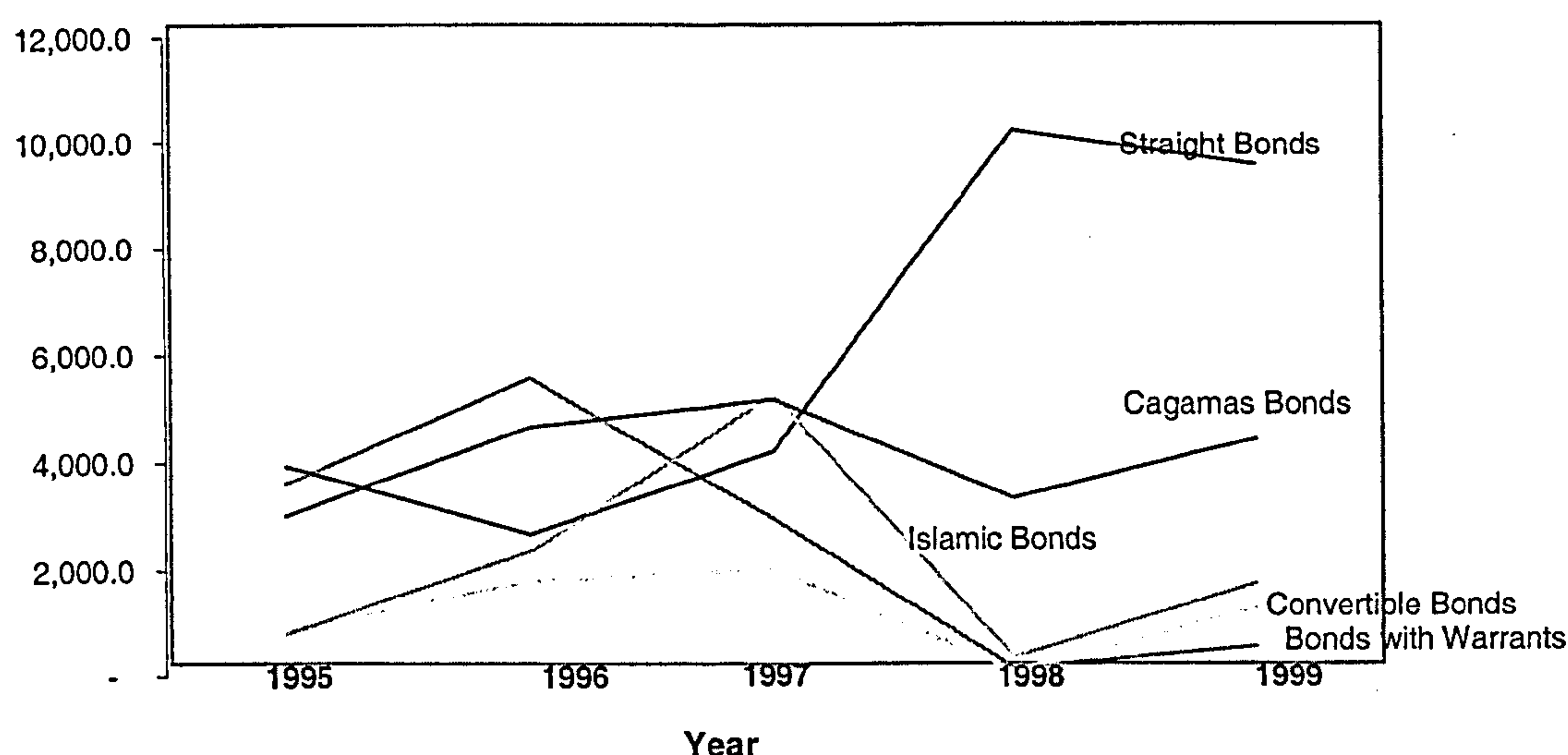
| Year | Straight bonds | Bonds with warrants | Convertible bonds | Islamic bonds | Cagamas bonds |
|------|----------------|---------------------|-------------------|---------------|---------------|
| 1998 | 10.2 | 0.15 | 0.09 | 0.34 | 3.3 |
| 1999 | 9.6 | 0.6 | 13.0 | 1.7 | 4.4 |
| 2000 | 1.1 | - | 0.14 | 1.3 | 2.6 |
| 2001 | 14.4 | 0.9 | 1.5 | 13.5 | 6.4 |
| 2002 | 7.7 | 0.3 | 2.9 | 10.2 | 9.5 |
| 2003 | 28.0 | - | 3.2 | 8.1 | 8.2 |

Source: Bank Negara Malaysia

Malaysia's major corporate bonds issuers are business firms in the manufacturing and transportation sectors, according to the central bank⁸⁷. The manufacturing sector issued 21 percent of corporate bonds, while the transport sector issued 20 percent of new total debts in 2003.

Figure 4.3: Bonds raised by the private sector 1995-1999

Ringgit Malaysia (million)



Source: Bank Negara Malaysia

Islamic corporate bonds differ from conventional bonds in that they are classified by maturity. According to the Securities Commission, Islamic long-term bonds refer to obligations due in more than five years, while medium-term notes represent debt issues that have maturities of between two and five years. By contrast, conventional long-term bonds refer to debts that have maturities longer than ten years and medium-term notes have

⁸⁷ Fabozzi (2000) argues that most corporate bonds are term bonds that have a maturity of between 20 and 30 years. He also argues that the word 'notes' can be used for obligations due in more than 10 years. Some bonds are structured according to specified principal amounts on specified dates. These bonds are called serial bonds. Term bonds refer to obligations due more than 10 years from the date of issue, p. 144.

maturities shorter than ten years. However, commercial papers classified as either Islamic or conventional refer to short-term discounted instruments of one to twelve months.

The issuance of corporate bonds was RM26.7 billion in 2002, of which Islamic bonds accounted for approximately 40 percent, according to the Securities Commission.

Table 4.3: Islamic PDS Issues 1998- 2002

| | 1998 | 1999 | 2000 | 2001 | 2002 |
|-----------------------------------|------|------|------|------|------|
| Total PDS (RM billion) | 14.2 | 17.6 | 24.3 | 31.5 | 26.7 |
| IPDS (RM billion) | 0.35 | 1.7 | 13.1 | 13.5 | 10.2 |
| IPDS as % of PDS | 2.4 | 9.7 | 53.9 | 42.9 | 38.2 |

Source: Securities Commission, 2002 Annual Report.

There are two principles, namely profit sharing and mark-up sales that Islamic debt issuance aimed at meeting corporate financing needs. The corporate bonds can be either with fixed rate or flexible rate bonds. The return may be payable on a quarterly, semi-annual or annual basis depending on the declared profit or the profit margin. Malaysia's Islamic Private Debt Securities are largely structured according to the concepts of *bay bithaman ajil* (deferred payment sales), *mudaraba* (trusted profit sharing) and *ijara* (leasing).

Bay Bithaman Ajil Bonds

The bonds are issued according to the principle of deferred payment sales (*bay muajjal*) to provide long-term financing for large corporations such as telecom, petroleum and electrical power companies in their huge project developments. For example, approximately RM2.2 billion worth of bonds were issued in financing the construction of the Kuala Lumpur International Airport.⁸⁸ They have maturities typically longer than five years and occasionally as long as twenty years.

These bonds involve the sale of assets between the issuer and financier where the purchase price is paid on an installment basis. The securitization of the underlying assets is through the issuance of debt certificates known as *shahadah al dayn*. The bond issuance can be syndicated through the creation of a primary note and a secondary note. Both notes are tradable in the secondary market using the concepts of *bay al dayn* (debt trading).

The bond issuer promises to pay the purchase price including profit margin or par value of the underlying assets at maturity⁸⁹. Financial institutions and Islamic banks are usually net buyers of these bonds. Discount houses often purchase the bonds from Islamic banks and financial institutions and sell them to their correspondents' banks and corporate clients.

⁸⁹The issuance of the bonds consists of two instruments, primary notes and secondary notes. The primary notes represent the amount of principal borrowed by the issuers (buyers) who need financing for the purchase of specified commodities or assets. The secondary notes constitute the amount of profit margin as the result of sales transactions that would be earned by the financiers (sellers).

Mudaraba Bonds

Unlike *bay bithaman ajil* bonds, *mudaraba* bonds are flexible rate interest-free instruments. *Mudaraba* returns vary according to anticipated or expected profits. The bondholders have the right to receive any profit, which is realized from the investment in the project or business venture. The issuance of these bonds involves two *sharia* principles, profit sharing joint-venture under the concept of *mudaraba* and debt trading using the concept of *bay al dayn*.

The bonds are essentially equity financing through the subscription of capital in the business venture or specific projects. The bonds offer a pre-determined profit sharing ratio and can be issued through direct placement and/or by way of tender. The maturity of the bonds is limited to the completion of the specified projects or the tenure of the business venture as agreed between the entrepreneur and the financiers. *Mudaraba* bonds usually have a maturity period of more than five years.

The purpose of *mudaraba* bonds is to provide corporate entrepreneurs with the most desirable long-term financing with restrictions on intervention on the part of the management of the business entity. The instruments provide liquidity to the corporate entrepreneur who may sell the bonds at the unit price, with the agreed profit ratio, in the secondary market. The unit price is computed by dividing the *mudaraba* capital by the number of units issued. Profit ratio is the share of actual profit determined between the corporate issuer and the investors.

Public listed companies and corporations generally issue these bonds to source their funding investment as an alternative to bank loans. They usually issue large volumes of the bonds and redeem the same number in the market. Islamic banks, financial institutions and insurance companies are typical investors in *mudaraba* bonds. They usually hold sizable

volumes of these instruments. Other investors include pension funds and employee provident funds.

Murabaha Bonds

Murabaha bonds refer to short- and medium-term coupon bonds issued by corporations to investors without the intermediation of banking institutions. The maturity of such bonds can be long as five years. The coupon payment represents the agreed profit margin between the investors and the issuers on the basis of mark-up sales (*murabaha*) transactions.

The issuance of the bonds is generally similar to that of *bay bithaman ajil* bonds. Both are sales-based transactions. The main difference is in terms of their maturity periods. The *murabaha* bonds are typically issued for a shorter term than the former. Both debt instruments are issued through the sales transactions of specified assets with profit margins. The settlement of the selling price can be made either in a lump sum payment or as installments on specified dates.

Ijara Bonds

Ijara bonds refer to the sale of leased assets such as plant, equipment, machinery and vehicles by the owner of the assets to the financiers of the same assets at an agreed price. The issuance of bonds involves the sales transactions of the specified assets and the leasing back of the same assets by way of *ijara* rental. The payment of rental is to be made periodically throughout the *ijara* contract.

During the tenure of the *ijara* contract, the ownership of the assets remains with the financiers, but upon the maturity of the instrument the title may be transferred to the financiers. The *ijara* bonds are evidenced by the issuance of *sukuk ijara* notes which represent the periodic rental. These notes are tradable in the secondary market.

Ijara financing differs from conventional leasing in the manner in which the responsibility for maintaining the underlying asset rests on the financiers (lessor). The lessee has the right to suspend the contract until the asset is operable or repaired. Although the lessor is responsible for maintaining and insuring the asset, the cost of maintenance and insurance can however be passed on to the lessee according to *sharia*.

Cagamas Bonds

Cagamas issue four types of debt security to finance conventional housing loans, industrial property loans, hire purchase and leasing, and Islamic house financing debts⁹⁰. The purpose is to facilitate the commercial banks, finance companies and merchant banks in complying with the statutory reserve and liquidity requirements.

⁹⁰ To be eligible for sale to Cagamas, the Islamic house financing debts must:

Be for financing or refinancing the purchase, construction or renovation of residential properties;

Be fully disbursed;

Not be more than three months in arrears at the time of sale;

Have a remaining life which expires on or after the Review Date;

Have a profit rate greater than Cagamas' required rate of return;

Be secured by a first charge or assignment of rights over the mortgaged property;

Be for the financing of residential units costing above RM150,000 up to RM1,000,000;

Have a remaining maturity of between 5 and 10 years at the point of sale;

At the point of sale have an outstanding principal not more than 60% of the value of the mortgaged property;

Have a seasoning record for at least 2 years prior to the date of sale and with no installment in arrears in the 12-months preceding the sale to Cagamas.

Source: Bank Negara Malaysia

Although cagamas bonds are exempted from the restriction of credit to a single customer, they are not deductible from eligible liabilities for statutory reserve and liquidity requirements.

Cagamas *mudaraba* bonds involve the purchase of *bay bithaman ajil* house financing from financial institutions in accordance with the principle of *bay al-dayn* (debt trading) at an agreed price based on their book value⁹¹. The issuance of *mudaraba* bonds is through the execution of a Master Sale and Purchase Agreement and a Master Servicing Agreement with the loan originators. The bondholders will receive the profit generated from the payment of Islamic house financing. However, the investors are not guaranteed any repayment by the issuer of the principal borrowed in the investment.

Following the sale of Islamic house financing debts, the financial institutions are required to pay monthly installments known as Cagamas Installments which represent the net mortgage installments less the service fee of the debts. The sale of these debts is subject to quarterly review. Cagamas *mudaraba* bonds are applicable to Islamic house financing with remaining maturity periods between five and ten years. If these debts default, the originating financial institutions are given the option either to repurchase the pool of debts sold or sell the new pool of debts, equivalent to debts sold, as the replacement.

⁹¹ The principal balance outstanding on a date which is closest to the purchase date but not earlier than the end of the month preceding the purchase date.

4.3 KEY ISSUES IN THE ISLAMIC BOND MARKET

Malaysia's Islamic capital market is not as highly developed as the corresponding banking market. Islamic debt securities range from government issues to corporate bonds including mortgage debt securities. The issuers always look for the lowest cost of financing while investors want the highest return for a level of risk with which they are comfortable. At the same time, market intermediaries need to offer a wide array of Islamic capital market services to ensure depth and breadth in the system.

The major issues have to do with diversification of the investors' base, liquidity in the secondary market, fragmentation of the debt market, and international consensus on Islamic instruments and appropriate benchmark securities.

4.3.1 Lack of Diverse Investors

Malaysia's capital market is less heterogeneous than others and therefore needs a large investor base. Provident funds, pension funds and insurance companies generally hold more than half of the outstanding corporate bonds, while banking institutions hold around 20 percent. These figures seem to imply the need for widening the investor base in the private debt securities market.

To encourage greater market participation, however, several amendments have been made in late 1990s. For example, the government has deregulated the investment grade restriction, thus allowing unit trusts to invest in bonds with a BBB rating, and insurance companies to invest in unsecured bonds with an A or P2 rating. A tax exemption was granted for income earned by individuals and unit trust companies on listed and unlisted corporate bonds in order to reduce transaction costs for bond investment.

Apart from regulatory revision, in 1996 the Securities Commission has established an Islamic Capital Market Unit which will carry out research activities in areas related to Islamic financial products and Islamic jurisprudence, and has launched a series of customer education programmes to boost awareness of the workings of the Islamic bond market and various aspects of the capital market in accordance with the *sharia*.

4.3.2 Lack of Liquidity

The secondary market remains relatively under-developed and neglected. A key reason for the lack of liquidity is the holding of bonds until maturity by investors such as insurance companies, pension funds, discount houses, management funds and merchant banks. Furthermore, government bonds offer a high captive demand due to the requirements of statutory reserves, liquid assets and certain investments. For example, the Employees Provident Fund has a huge investment in government bonds because of liquid assets and investment requirements. As a result, the volume of trading supply, which is a pool of tradable securities, is insufficient..

Another reason for illiquidity in the secondary market is the fragmented trading structure. The unlisted corporate bonds are traded on the over-the counter market (OTC) which is regulated by the central bank, while the listed corporate bonds are traded on the stock market which is run by the Securities Commission. Securities firms are prohibited from trading on the OTC market unless special approval has been granted by the central bank. This restriction has diminished market liquidity since the unlisted corporate bond market is much more dynamic than the listed market.

Repurchase agreements (repos) are considered to be a lending and borrowing mechanism for facilitating liquidity in the secondary market.⁹² Although the repo market is available in Malaysia, its depth is however inadequate to support market liquidity. The range of participants in the repo market is also restricted to institutions and fund managers selected according to the Securities Industry Act. The lack of an organized futures market also hampers liquidity and price discovery in the secondary market.

4.3.3 Fragmented Debt Market

The domestic bonds market in Malaysia is highly segmented and it is also isolated in international terms. This isolation is an important factor in restricting the development of the domestic market. Due to domestic segmentation the number of market players is limited and there has been little or no evidence of foreign entry.

A group of local underwriters and domestic banks that act as agents or arrangers have great power over the issuance of corporate bonds. The number of major lenders to large businesses is also limited. The top three local banks including Bank Islam Malaysia, as well as the large life insurance companies, have largely controlled lending to major corporations in Malaysia. The group of major banks and insurance companies is interconnected. In some cases, several institutions belong to the same group of firms and cross-share holdings.

The ability of Malaysian firms to borrow from foreign lenders has been heavily regulated. Although a few large corporations have received approval for foreign bond issues, such issues are a negligible funding source. Similarly, the admission of foreign banks to the

⁹² They enable bond traders to take long and short positions and buy and sell according to customer demand on a relatively small capital base.

Malaysian market has been strictly controlled. A few foreign banks became established after 1957 but further entry was essentially precluded since 1966. Even now the relative position of foreign banks is very small. They account for only about twenty-five percent of total bank lending in Malaysia.

4.3.4 International Acceptance of Islamic Debts

In general, the Islamic bonds sector is the fastest growing segment of the domestic bonds market. Many of the Islamic bonds issued by the large corporations such as Petronas, Tenaga Nasional and Telekom Malaysia are long-term corporate bonds. A large portion of the Islamic bonds are structured on the basis of *murabaha*, *ijara* and *bay bithaman ajil*. On the other hand, the proportion of *musharaka* or *mudaraba* bonds issued is marginal.

Developing new Islamic debt instruments requires not only an in-depth knowledge of the various types of Islamic financial contract but also a comprehensive understanding of the contemporary market needs of the issuers, investors and intermediaries. It also requires the ability to structure products which not only satisfy the *sharia* but are also consistent with the commercial legal system of the country.

Despite a strong demand for Islamic products, one of the key concerns is the acceptability of debt instruments among Muslims, especially in the Middle East and the Islamic schools of thought. For example, a problem of consensus has developed in Malaysia over asset securitization and sales of debt. Therefore an international consensus is crucial in the development of the Islamic financial market. Indeed, the Islamic market still lacks *sharia* compatibility in risk management and hedging tools as well as fixed income securities. It is

imperative that the different Islamic schools of thought foster an international resolution between Malaysian jurists and the rest of the Islamic world.

4.3.5 Lack of Liquid Benchmark Yield Curve

Malaysia needs an appropriate liquid benchmark yield curve. The main criteria for benchmark securities⁹³ include fungibles, default-risk free, sizable issue, regular issuance and wide span of maturity dates (Singh, 2000, p.101).

Although Malaysian Government Securities (MGSs) provide efficient pricing of bonds, the disparity of supply and demand for MGSs has hampered the development of an efficient yield curve. Furthermore, khazanah bonds, as the Islamic benchmark, are inadequate when compared to MGSs due to the shortage of volume and the limited applicability of their rates for periods of between one and three years, according to bond dealers.⁹⁴

In general, government bonds are used to aid various economic decisions including the price of corporate bonds and as a reference in the derivatives markets. Nevertheless, bond dealers still perceive the Asian governments' bond yield as an insufficient indicator for the hurdle rate when computing project financing (The Economist, 2001, August 31). Evaluation of Islamic project financing requires more thorough consideration because of the unknown anticipated profit factor in the calculation of profit sharing joint ventures.

⁹³ The viable benchmark securities include MGS, khazanah bonds and cagamas bonds. Since 1997, the Malaysian government has issued khazanah benchmark bonds which are zero-coupon bonds based on *murabaha* and *bay al dayn* to allow for efficient pricing of credit risks for both conventional and Islamic bonds.

⁹⁴ See Tiroi, Stella, in *Once Bitten*, The Asset, June 2000.

4.4 CONCLUSIONS

The target of Malaysia's dual capital market development is the creation of an Islamic market which is equally innovative, competitive and modern. The Islamic bond market has to confront the absence of market information when compared with the conventional market. By contrast, the conventional bond market is guided more by market information such as interest rates and the pricing of their investment portfolios. The transparency of the Islamic bond market is relatively critical due to the nature of its transactions. Islamic investment transactions differ greatly from the interest-based system.

Some critical issues need to be addressed in relation to the whole development of the Islamic bond market. These major issues include diversification of the investors' base, liquidity in the secondary market, fragmentation of the debt market, international consensus over Islamic instruments and appropriate benchmark securities. The challenges include developing expertise in all areas of Islamic finance and deepening the Islamic bond market. Ultimately, the success of the Islamic capital market depends upon the provision of what is demanded by the investors, issuers and intermediaries in the economy.

CHAPTER 5

RESEARCH METHODOLOGY AND SURVEY DESIGN

5.1 INTRODUCTION

The main objectives of this chapter are to examine the research methodology and survey design used in the study. Research methodology refers to the overall research process which covers the theoretical framework, data collection and analysis of the data.⁹⁵ Survey design explains how to design and conduct a successful research survey⁹⁶. The main research paradigm of this study is a quantitative approach.⁹⁷

In this survey, the Islamic bond dealers of Kuala Lumpur Financial District are drawn as our sample. We studied 54 respondents, mainly bond managers and dealers belonging to banking and financial institutions including contractual savings institutions and Islamic mutual/unit trust companies. The respondents were involved in the origination, underwriting and trading of Islamic bonds. The aim is to make inferences about Islamic bond dealers in Malaysia.

⁹⁵ Hussey (1997), *Business Research*, Hampshire: Palgrave Publishers, p.65.

⁹⁶ Creative Research Systems (2003), www.surveysystem.com/sdesign.htm

⁹⁷ Morgan (1979) offers three levels of paradigm, namely philosophical, social and technical. The philosophical level reflects basic beliefs about the real world; while the social level specifies guidelines on research. The technical level outlines the research methods. See also Hathaway (1995) *Research in Higher Education*, 36(5), pp. 535-562. He concludes that the paradigm of research uses either the qualitative or quantitative approach, each of which has its own strengths and weaknesses.

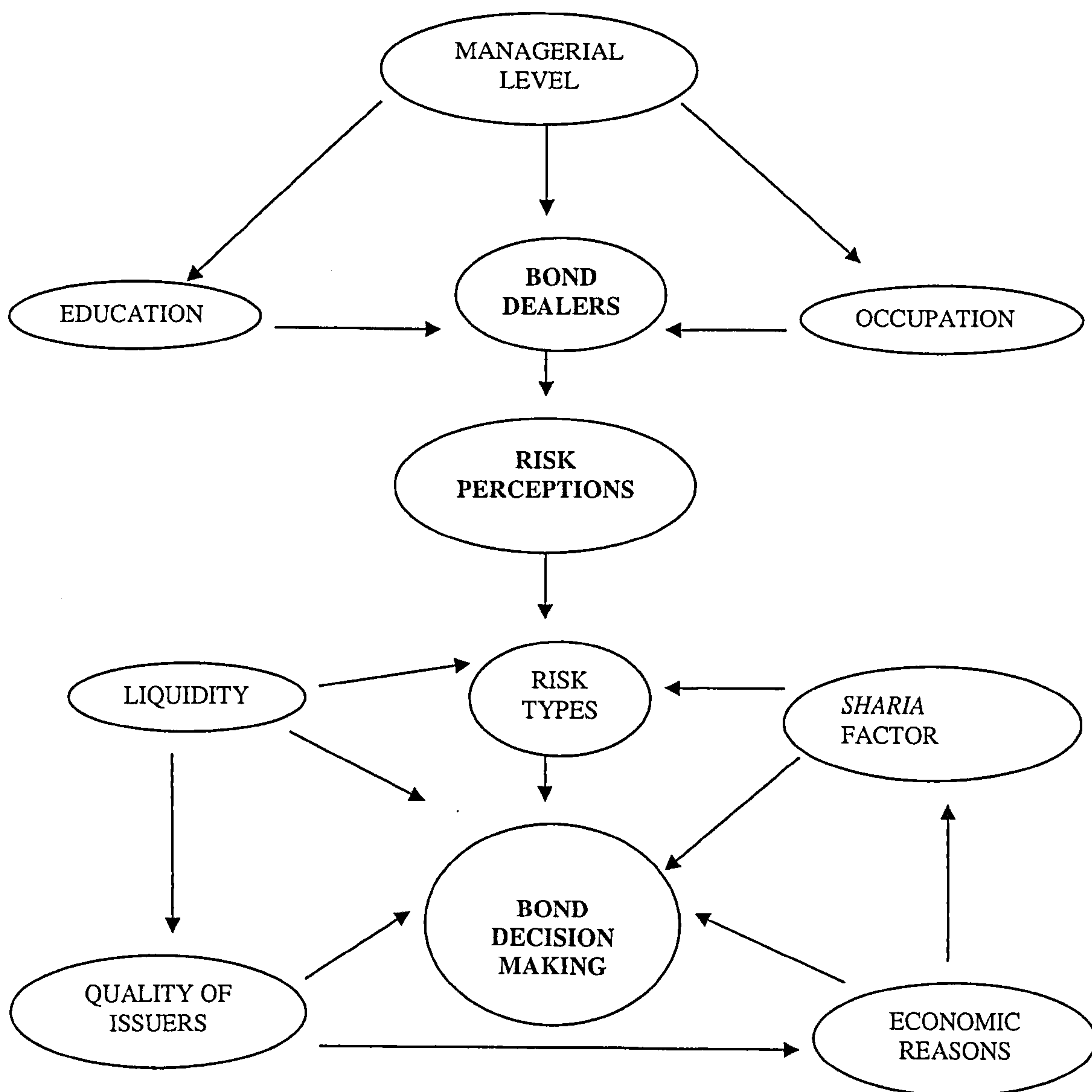
This chapter is divided into five sections. Section 2 explains the research objectives while section 3 discusses the survey design. The sample design and data collection are presented in section 4. Section 5 elaborates the survey questionnaire and the fieldwork, and finally section 6 outlines the method of statistical analysis. The next chapter will describe how respondents form bond opinions and make trading decisions on bonds, and outline the factors that influence the risk perceptions of individual dealers of Islamic bonds.

In relation to main and sub hypotheses, we also identified a numbers of research questions which include the followings:

1. Will bond dealers who are senior in managerial level perceive risk better than those who are junior?
2. Do professional dealers have a different risk perception compared to non-professional dealers?
3. What are the dealers' attitudes toward the ex ante risk dimension in the Islamic bond market?
4. Does the education level change the risk perceptions of Islamic bond dealers?
5. Does the liquidity factor influencing the dealers in their Islamic bonds selection?
6. Was *sharia* compliance the main factor explaining the demand for Islamic bonds ?

7. Does the perceived quality of the issuers influence the bond dealers, and what does this tell us about the reality in Malaysia's Islamic bond market?
8. Is the credit risk the most important factor determining the selection of Islamic bonds ?

Figure 5.1: Diagrammatic conceptual research framework



5.2 RESEARCH OBJECTIVES

The main objectives of the study are to determine the perceptual risk behaviour of Islamic bond dealers and to investigate the selection factors affecting Islamic debt securities. The four main hypotheses of this study as indicated in chapter 1, are as follows:

1. Is there any connection between the bonds' risk perceptions and individual preferences. If there is a relationship then what socio-economics characteristics influence their dealings in the bond market.
2. Islamic dealers are aware of bonds risk, but associate this with the profit motivation for investment decision making.
3. Islamic dealers are motivated by economic and religious factors that influence their decisions in buying and purchasing Islamic bonds.
4. As the Islamic bond dealers also deal in conventional bonds, then the selection criteria for Islamic bonds do not differ except in the avoidance of interest.

To test the null Hypothesis 1 and 2 (there is no association between the dealers' socio-economic characteristics and the risk perceptions), we examine the dealers uni-dimensional perceptions and their education, occupation and the managerial levels. The single dimensional was identified on the basis ex ante risks related to the possibility income measures. They include the risk of actual income being lower than expected, of income payment being delayed or none of the income being paid at all (zero income).

Likewise to test Hypothesis 3 and 4 (the Islamic bond dealers are not motivated by economic and *sharia* factors when making sell or buy decisions in Islamic debt securities), we examine the selection criteria used by Islamic bond dealers, who include bankers, investors and fund managers in Malaysia. The treasury and fixed income bond investors provide perhaps the best vantage point from which to explore the question of determining factors. These major dealers in Islamic bonds in Malaysia have been pacesetters in the bonds market since the late 1990s.

To the best of the researcher's knowledge, no research into the Malaysian capital market has been devoted to examining the bonds selection behaviour of fund managers or fixed income investors. Nevertheless it is envisaged that the bonds selection criteria for these market dealers is no different from those of the existing dealers in the conventional bonds market.

On the assumption that Islamic bond dealers are the same dealers as in the country's capital market, except those in the two fully-fledged Islamic banks (and two Islamic fund managers), the following sub-hypotheses will be tested:

1. Islamic bond dealers are motivated to participate in the bonds market if the level of risk is not high and the return on bonds is attractive.
2. Islamic bond dealers may refer to the interest rates and the price of bonds in the conventional market as their benchmarks.
3. Islamic bond dealers are likely to buy or sell debt securities that avoid *riba* transactions subject to the profitability of the investment decision.

4. They may also consider the quality of bond issuers and their credit standing as the most important factors before subscribing to any debt securities including Islamic bonds.

5.3 SURVEY DESIGN

There are two major components of the survey design. We first identified the financial directory of bond dealers covering the entire population of the capital market including both public debt and private debt sectors. This information includes the listing of institutions, names, main businesses and other related factors for the commercial banks, two fully-fledged Islamic banks, discount houses, five major bondholders and two Special Purpose Vehicle (SPV) and bonds regulators. The list of bond dealers provided the population or universe of relevant firms which would be used in the questionnaire survey. Further, we stratified the population according to various categories and then selected personnel from each group in proportion to the whole population.

The second part involved field research conducted between 1 July and 30 August 2002 using a survey questionnaire and including brief personal interviews with fund managers, bond managers, treasury managers and dealers at their corporate headquarters in Kuala Lumpur Financial District. The firms surveyed included Bank Muamalat, Bank Islam, Bank Rakyat, EON Bank, Maybank, and Affin Merchant Bank. The questionnaire survey was designed to discover background data and the bond opinions of Malaysian market dealers. In addition we visited the offices of Bank Negara, the Security Commission, Khazanah Nasional, and Tabung Haji and Employment Provident Funds. The purpose was to get research opinions from regulators, major bondholders, *sharia* advisers and policy makers.

The questionnaire survey served two purposes:

1. It provided descriptive information on the bond opinions and perceptions of bond dealers.
2. It played a vital role in the analysis of the investment behaviour and attitudes of bond dealers.

5.4 SAMPLE AND DATA COLLECTION

Churchill (1983) offers a useful sequence of step for the sampling process and this was applied in this study. The steps include defining the population, determining the sampling frame, determining the appropriate sample size and executing the sampling design.

The population of this study would be all relevant fund managers, bond managers and dealers in the treasury, capital market and corporate finance departments of banking and contractual savings institutions, the Security Commission, and rating agencies in Kuala Lumpur and Petaling Jaya head offices. Since the focus of the study was on the Islamic bonds market, the elements of unit analysis were obviously the managers and dealers who trade, arrange the issuance, regulate, invest and approve the Islamic debt securities. The clerical staff who were involved in Islamic bonds would be excluded and so would the bonds issuers and holders in the conventional financial institutions. In brief, the population of Islamic bond dealers of the Kuala Lumpur Financial Centres is identified as the sampling frame.



One of the possibilities was to select a representative sample of Islamic bond dealers from all business firms in the country. Another alternative was to select all relevant dealers and managers of the non-financial sector who were involved in Islamic bonds. However, if the survey was to be conducted for all sectors simultaneously within a specified limited time frame, we would face difficulties in terms of dispersion, administrative and cost issues.

The sampling procedure adopted was stratified random sampling. Our sampling frame consisted of the following strata: managers and officers in banking and contractual savings institutions, rating agencies, SPV companies and Islamic funds mutual/unit trust companies. This type of sampling was chosen because of easy data management, small sample size, and the problems of certainty and precision. Every respondent belonging to the treasury, corporate finance and fixed income investment departments was then examined. This stratified approach was used in order to improve precision, to overcome time constraints and to minimize cost.

The required sample size depends on the degree of accuracy and the extent of variation in the population⁹⁸. To determine an appropriate sample size⁹⁹, Kalton (1983) suggests that we need an initial estimator and a standard error, using the formula of

⁹⁸ De Vaus (1993, p.70)

⁹⁹ See also Creative Research Systems (2003), www.surveysystem.com/sdesign.htm
Sample Size

$$ss = \frac{Z^2 * (p) * (1-p)}{C^2}$$

where:

Z = Z value (e.g. 1.96 for 95% confidence level)

p = percentage expressed as decimal

(e.g., .5 used for sample size needed)

C = confidence interval, expressed as decimal

(e.g., .04 = ±4)

$$SE(p) \approx \sqrt{PQ/n'}$$

Where

P is the population percentage,

Q=100-P

n' = is the initial estimator,

Hence, substituting SE (p) in the initial equation, then the sample size $n' = 1.96^2 PQ/4^2$.

Gay (1976) offers a guideline for minimum sample size subject to the type of research. He suggests 10% (large population) or 20 % (small population) for descriptive, 30 respondents in total for correlation and 15 respondents per group for experimental. He also suggests that the sample size is a matter of judgment rather than a precise figure. De Vaus (1993) argues that the absolute size of the sample is more important than the accuracy of the sample.

In this study we compromised accuracy, time and cost factors in determining the sample size. The number of Islamic bond dealers was sampled from the banking and

Correction for Finite Population

$$\text{new ss} = \frac{ss}{1 + \frac{ss-1}{pop}}$$

where: pop = population

contractual savings institutions, and mutual fund/unit trust companies, in the Malaysian financial sector. As a result, a total of 130 respondents was determined. The relatively small number was mainly due to the downsizing of financial institutions, mergers and takeovers, and the limited number of Islamic market dealers. The strata method was applied in sampling the market dealers. We surveyed the respondents according to two main sub-groups which were selected from banking and non-banking firms. However, we selected and surveyed at random managers and officers who were involved in arranging, trading, issuing and investing in Islamic bonds. We selected from each department at least two respondents - one manager and one officer - at random.

Due to information secrecy and trading operation constraints, the researcher devised a timetable for a series of appointments which allowed accessibility to the target respondents. However, only respondents who agreed to be surveyed were to be approached. Hence the researcher would visit the respondents during business hours and/or at a specified time set by the respondents. We conducted a questionnaire survey of Islamic bond dealers during July and August 2002. The survey questionnaires were distributed to the respondents at their offices. In distributing the questionnaires, we made every effort to ensure objectivity and to avoid biased results.

Prior to the fieldwork, the researcher had performed two preliminary tasks. The first task was to get a letter of introduction from the Director of the Institute for Middle Eastern and Islamic Studies, University of Durham. The purpose was to explain the purpose of the study and facilitate permission from the various organizations to which the respective respondents belonged.

The next task was to arrange a series of appointments with the officials of the respective Islamic bond dealing firms. These included managers and officers in commercial banks, merchant banks, discount houses, Islamic banks, mutual funds, regulatory bodies, bonds issuers and others. Since the researcher was carrying out the survey himself, there was no need to employ interviewers for the fieldwork. However, the researcher employed one statistics lecturer from Universiti Pendidikan Sultan Idris to help with the data entry into the SPSS program.

When the appointments were confirmed, the researcher visited the respondents at their office premises to conduct the questionnaire survey. The questionnaires were distributed and collected in person from the respondents either on the same day or on an agreed date, when the researcher would revisit their offices to collect them. The respondents were also asked selective open-ended questions, and pertinent points from their responses were written down in notebooks.

During the fieldwork, the researcher introduced himself to the respective bond and fund managers and dealers by showing the introduction letter. The researcher also noted the following points:

- Self-administered questionnaires took about 30 to 45 minutes to complete by the respondent
- The vast majority of the respondents were willing to participate in the study without any payment of a cash incentive

- Approximately 60 percent of the questionnaires were collected on the same day while the rest were collected within one week of the date of the visit
- The researcher could detect early on, during the scheduling of appointments, whether the respondents were willing to participate or were going to refuse to take part in the survey.

A total of 130 survey questionnaires were distributed. We collected the completed questionnaires on the same day or at a later date agreed by the respondents. This method allowed some aspects of personal contact and a high response rate. A series of survey follow-ups yielded 54 usable questionnaires for a response rate of 41.5 per cent. The response could be considered to be quite good from financial services establishments, especially considering that the sample represents a highly regulated sector whose members may have been reticent to respond given the extreme degree of confidentiality expected of them. Since the corporate head offices are mostly in the capital city, we collected 48 sets in Kuala Lumpur and the balance of six sets were collected from Petaling Jaya. We do not know of any particular reasons why some people responded and others did not.

5.5 SURVEY QUESTIONNAIRES

Having decided on a sample, it is crucial to design and construct the elements of the survey. The survey questionnaire was designed to be self-administered so that the majority of respondents would be able to answer it without the help of the researcher.

Dillman (1978) suggests that there are four suitable types of question for inclusion in a questionnaire. These are attitude, attribute, belief and behaviour questions. He does not mention memory tests and subjective questions.

In general, the survey questionnaire contained close-ended questions, requiring multiple-choice answers and use of rating scales. Most of the respondents possessed high reading and writing skills and at least held college diplomas, with most having university degrees and professional qualifications.

In designing the survey, the researcher had scrutinized questionnaires on marketing research, and books and articles, including unpublished PhD theses, on bonds surveys and Islamic banking. The first draft of the questionnaire was developed in English without any translation into other languages. This was not a problem since most of our respondents were university graduates who used English for verbal and written communications in their business transactions and social life.

A pre-test questionnaire was distributed to five officers at the Institute of Islamic Banking Malaysia and the five bond dealers of Bank Islam Malaysia, as a pilot test. Among others, the aims of the exercise were:

- to check the questions in term of clarity and simplicity
- to eliminate jargon, ambiguity and difficult language
- to avoid sensitive questions, double meanings and negative questions
- to ask relevant questions in terms of the research objectives
- to ensure that the questionnaire was not too long for respondents to complete it within forty minutes
- to allow for redesign of the questionnaire if necessary.

The respondents to the pilot test answered and gave their feedback. It was worthy of note that the survey questionnaire was in English since the majority of our respondents, having at least college diplomas, understood the language. The test resulted in minor modifications being made but the basic content remained the same. Finally the questionnaire was read by a senior lecturer at the Universiti Pendidikan Sultan Idris who is well versed in statistics and the application software, namely the Statistical Package for Social Science (SPSS). After some revisions, the final draft was then prepared in order to launch the field survey in the Klang Valley area.

After conducting a pilot test, we decided to adopt multiple choices and rating scales. The multiple choice questions contained self-explanatory and distinct choices against which the respondents would tick only one answer. It was necessary to encourage speedy and simple answers in order to gain the respondents' cooperation and a high response. We also set simple questions requiring a yes or no response. The objective was to seek answers to opinion questions and factual questions (Hussey, 1997, p.169). These questions could be about theoretical and practical issues regarding the Islamic bonds market.

We asked the respondents to indicate their level of agreement and satisfaction with various statements by writing numeric values on scale of 1 to 3 next to them. We also designed ranking questions. The respondents were required to indicate their relative value next to each statement in a set. In these cases, we asked the respondents to give a numeric ranking such as first, followed by second, then three and so on. Hussey (1997) suggests that in ranking questions the number of items should not exceed six.

The questionnaire is made up of 40 questions, divided into five parts. Part one – ‘your background’ - comprises attribute questions which aim to identify the backgrounds of the Islamic bond dealers. The respondents were asked about demographic characteristics such as income bracket, age group, academic qualifications, job category and managerial level. The purpose is to establish a relaxed mood before moving on to more serious questions.

Part two comprises three opinion questions using multiple answers. The respondents were asked three questions regarding the level of risk according to bond issuers and structure types, the duration of debt securities and the importance of the *sharia* view.

Part three contains four belief and attitude questions asking for dual answers, yes or no. The first two questions aim to elicit the respondent’s views on what they think is true or not true about the bonds market infrastructure and the economic benefits of Islamic debt securities. The last two questions are designed to discover what the respondents think is desirable regarding issuer diversification and the features of Islamic corporate bonds.

Parts four and five are made up of opinion and attitude questions using rating scales. The first seven questions in part four ask for the respondents’ views on bonds pricing and risk-reward comparisons between Islamic and conventional bonds, while the next three questions aim to elicit the respondents’ awareness of the investment motives, regulatory issues and competition factors of Islamic bonds. A total of seven questions are based on semantic differentials of four-point scales whereas a total of three questions are based on scale of 1 to 3 values.

Part five consists of 14 ranking questions regarding bondholding, risk perception, bonds liquidity, economic needs and functions of Islamic debt securities, and the demand factor for Islamic bonds. The objective of the questions is to obtain respondents' opinions and attitudes by ranking a list of items. The questions use at least a three-point Likert scale.

5.6 OVERVIEW OF DATA ANALYSIS

Before we discuss a wide range of analysis, it is essential to recap the research questions. We attempt to analyze the important underlying factors concerning trading in Islamic bonds and to explore the perceptions of Islamic bond dealers in Malaysia. Hussey (1997) asserted that there are four criteria for selecting statistical techniques, namely types of data, analysis techniques, number of variables and measurement scales.

Based on these objectives, we carried out statistical tests on the hypotheses using multivariate data analysis. The analysis involved more than two variables and focused on exploratory data. We also employed factor analysis to determine the extent and validity of the hypotheses. Having collected the data, we chose the methods of analysis which were appropriate for our research project and gained access to a suitable computer program, namely SPSS, to enable us to conduct our chosen range of analyses, perform statistical tests and interpret the results rapidly.

Within data analysis, a division that is usually drawn is between descriptive and inferential statistics.¹⁰⁰ The former are important since they summarize, describe or display the pattern of sample data. On the other hand, the latter are used to draw conclusions about

¹⁰⁰ Hussey (1997, p.187)

the total population, based on the sample which is a subset of the population of which observations have been made.

Descriptive statistics include frequency distributions, histograms and bar charts. However, in this study we used frequency distribution to summarize appropriate measures of central tendencies such as the mode, median and mean. Of the three, the mean is the most common measure of a central tendency. However, in choosing the appropriate measures, the decision depends mainly upon whether the variable level is nominal, ordinal or interval. Within a nominal variable, the mode measures the central tendency, while in the case of an ordinal variable both median and mode indicate the central tendency. The mean and median can be used on interval data to measure the central value in the distribution.¹⁰¹

In this study, two inferential sets of statistics are employed for our data analysis. First, the statistical technique of log linear analysis, namely HILOGLINEAR, is used to test a relationship among three variables or more using an SPSS log linear model. Its primary purpose is to analyze the interaction effects between education, job categories and managerial level on risk perception. Second, we employed exploratory factor analysis to examine some complex phenomena and the correlations among a large number of variables.

The objective was to determine the common factors that could have influenced the respondents' attitudes towards bonds investment in the Islamic capital market of Malaysia. The extraction of each group of factors having eigenvalues greater than one is considered significant. The technique is best explained with the data to be discussed further in Chapter 8.

¹⁰¹Bryman (1990, p.82)

The second issue in data analysis that is commonly discussed is the distinction between parametric and non-parametric statistics. Parametric techniques involve using normal distributed data from a sample drawn from the population, but they can only be used on interval or ratio data. By contrast, non-parametric techniques can be used on data that is not normally distributed and on categorical scale. In this study, the data are either nominal or ordinal and the technique is limited to non-parametric statistical tests. We did not have much information about the population parameters as to whether they have a normal distribution. Non-parametric techniques are not as powerful as parametric ones because they usually ignore some of the available information. According to Oakshott (1994), the non-parametric techniques are less reliable since they are less discriminating. However, Siegel (1956) argues that the non-parametric, for example the Mann-Whitney test, is as powerful as the equivalent parametric test.

5.7 CONCLUSIONS

There are several scientific methods of enquiry in the research process that are important to ensure the validity of the conclusions drawn from the study. The research methodology of our study indicates that it is a quantitative research which employs a survey as its method and focuses on Islamic bond market dealers as its unit of analysis. As mentioned earlier, the main thrust of our study is based on twin objectives. First, we analyze the interaction effects of job categories, educational background and managerial level on the risk perceptions of Islamic bond dealers. Second, we further explore the selection factors in trading decisions regarding Islamic instruments in the Malaysian bonds market.

Our method of data collection was based on the self-administered and close-ended survey questionnaire. The questionnaire has 40 questions from which a total of 130 variables were constructed, 100 ordinal and 30 nominal. The data were sampled using stratified techniques. In this case, a sample size was drawn from the 130 respondents who were Islamic bond dealers in Kuala Lumpur and Petaling Jaya. The field survey was conducted during July and August 2002. Earlier, a pilot test was carried out in order to improvise the questionnaire design. Of the 130 sets distributed, 54 were collected in usable order to be included in our final analysis. This represents a response rate of about 41.5 percent .

The level of measurement was based on nominal and ordinal data. Owing to the nature of our data, we had difficulty in employing parametric techniques, such as multivariate regression and econometric analysis, which require interval data. Nevertheless, with the help of computer programs, especially SPSS, we managed to overcome such problems with equally high accuracy. In this study, we employed, among other techniques, exploratory factor analysis and hierarchical log linear analysis. We shall describe the data analyses and their results involving univariate and multivariate analysis in the next three chapters.

CHAPTER 6

BONDS MARKET ENVIRONMENT AND BACKGROUND OF THE RESPONDENTS

6.1 INTRODUCTION

The overall statistical analysis is divided into three separate chapters. This chapter covers univariate data analysis, whereas the next chapter will explain the multivariate analysis using a log-linear model. The univariate analysis examines descriptive results on how the respondents varied their responses to each question. The log-linear model examines the interaction effects of individual characteristics on the risk perceptions of Islamic bond dealers. In the final chapter, Chapter 8, we employ factor analysis to discover relationships among sets of interrelated variables that can examine the bond selection criteria of the respondents within the context of Malaysia's Islamic bonds.

The objective of this chapter is to describe the bonds market environment and the characteristics of the respondents derived from the sample. The analysis will focus on the individual profiles and characteristics of the Islamic bond dealers as buyers and sellers in the Malaysian bonds market.

6.2 OVERVIEW BOND MARKET ENVIRONMENT

The establishment of Malaysia's first Islamic bank in 1983 resulted in the introduction of Islamic government bonds, which gave the bank new facilities in terms of liquid assets and investment avenues. However, after a decade of monopoly for the country's only Islamic bank, the conventional commercial banks and financial institutions were allowed to offer Islamic banking through services called Islamic windows. Apart from the expansion of Islamic banking, the number of banking institutions had simultaneously declined due to the consolidation of the banking sector. In net terms, these developments consequently shrank the number of market players in the bonds market including Islamic bonds players. In recent years, two Islamic banks¹⁰², 17 conventional commercial banks, five merchant banks and seven discount houses have offered Islamic banking services (Bank Negara Malaysia Annual Report, 2003, p.207).

The bonds market environment is shown in Figure 6.1. The bonds market environment consists of a wide range of interrelated factors such as the macro-economic situation, financial sector competition and the bonds market structure. These factors can influence bonds market players, namely issuers, investors and intermediaries, in their decision to enter the market.

The components of the internal bonds market structure include market players, the regulator, and the clearing system. Credit ratings agencies also are included in the internal structure. Market players need attractive products which provide financial benefits to them.

¹⁰² The second Islamic bank was established in 1999 when the second largest commercial bank, Bank Bumiputra, sold the banking assets of its conventional operation to another conventional bank, while its Islamic window operation was transferred to the new entity called the Bank Muamalat Malaysia.

Issuers need a low cost of borrowing, investors expect a high return, and intermediaries want to earn profits.

Issuers are the core market players who have the capability of attracting investors and are willing to disclose information for the calculation of returns. They include corporations, financial institutions (banks, savings institutions), supranational issuers and infrastructure projects. Issuers need large volumes, fast access and the right maturities. Diversified and widely based issuers are key success factors for the bonds market.

Investors are willing to trade and take risks because of the financial benefits. Investors, such as pension funds, insurance companies, mutual funds and other financial institutions, are attracted to the market due to economic benefits, instruments, structures or maturities that match their liabilities better than other products. They are willing to take risks and positions in order to compensate for less successful investments.

Intermediaries bring issuers and investors together and make profits through risk taking and risk management. Intermediaries have skills in securities trading. In order to make money, the bonds industry needs enough firms to create competition while not so many as to lead to over-crowding.¹⁰³

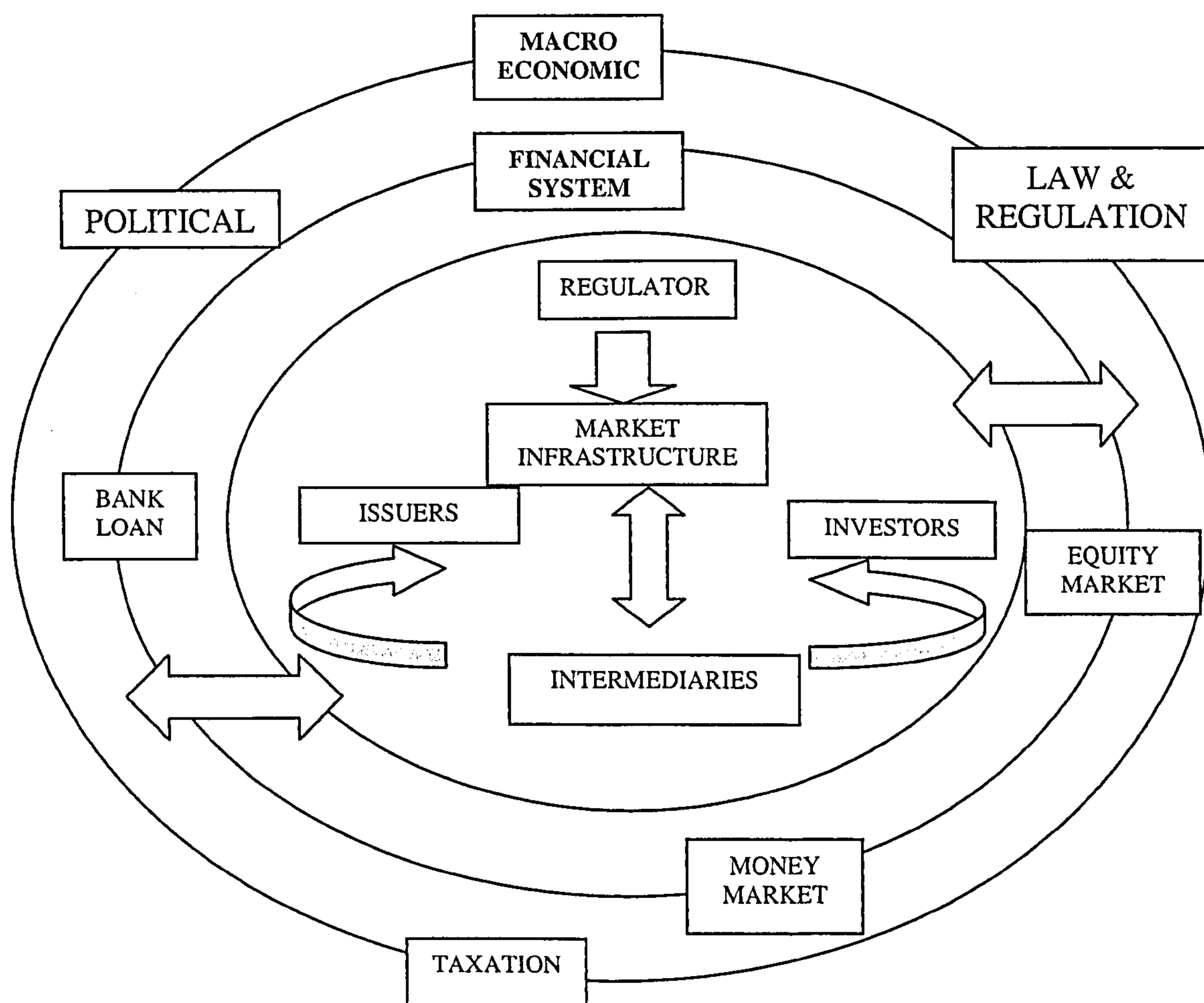
As a regulator, the Securities Commission is involved in the development of the bonds system and the negotiation of intra-market entities. Regulated entities need a simple regulatory environment that they can comply with, the smallest necessary degree of information disclosure, and fast approvals for bond issuance. However, the regulator has a

¹⁰³ Ibid, p.11

dilemma between the need for a high demand of deregulation and maintaining prudent supervision¹⁰⁴.

The trading system is a major infrastructure crucial to market liquidity because it provides an avenue for the listing and trading of bonds. As with the equities market, trading and settlement systems facilitate the operation of the bonds market. Lack of financing and hedging instruments can also affect liquidity.

Figure 6.1: Bonds Market Environment



Source: Harwood, (2000), Building Local Bond Markets, p. 8, IFC, Washington DC, USA.

¹⁰⁴ See Singh in Chapter 8, *Building Local Bond Markets - An Asian Perspective*, Washington: International Finance Corporation where the listing of bonds in Malaysia previously took six months as the process involved many authorities such as the central banks, the companies' registrar and the stock exchange.

6.3 DATA SUMMARY

Although descriptive analysis explains the nature and characteristics of the sample, data summary provides the foundation for further inferential analysis which is used to draw conclusions about the entire population. At this point it is useful to reiterate that the sample size of the survey was 54.¹⁰⁵ A majority of the respondents are bond dealers in Kuala Lumpur (44 persons (81.5%)), and 10 persons (18.5%) are in Petaling Jaya¹⁰⁶.

The respondents were randomly selected from the Kuala Lumpur Financial District, mainly from financial professionals in the bonds market. They also include regulators, such as the central bank and the Securities Commission, who are involved in the Islamic bonds market. They are involved in the bond issuance process in term of origination, underwriting and trading of Islamic bonds. In short, the respondents are employed in banking and financial institutions, contractual savings institutions, and mutual/trust fund companies, and are actually individual dealers within the financial sector.

The questionnaire has 40 questions from which a total of 130 variables were constructed, 100 ordinal and 30 nominal. Since none of the variables involved interval data, the statistical analysis is subject to constraints.

¹⁰⁵ The quota sampling involves different types of respondent. For example, at least 20% of the respondents are managers, assistant managers and officers from the treasury department, 60% from the corporate banking sector and 20% from the regulator and benchmark issuers. Quota sampling is a popular method adopted in marketing research (Hussey, J (1997), *Business Research*, Basingstoke: Palgrave Publishers, p. 146).

¹⁰⁶ Kuala Lumpur is the capital district of Malaysia which also serves as the banking district where most head offices are located, whereas Petaling Jaya is a satellite town approximately 20 kilometres west of the capital city. Only a small number of financial institutions have their main office in Petaling Jaya.

Table 6.1: Univariate analysis by data type

| Type of data | Descriptive data analysis | | Inferential data analysis |
|--------------|---------------------------------|--------------------------------------|--|
| Nominal | <u>central tendency</u> Mode | <u>dispersion</u> Variation ratio | Interval estimate using standard error of the binomial |
| Ordinal | Median/mode | Decile range | As above |
| Interval | Mean/median | Standard deviation | Interval estimate using standard error of the mean |

Source: De Vaus (1996), *Surveys in Social Research*, 4th edition, London, UCL Press Ltd.

Central tendency is a simple description of a large distribution through a single value such as the mean, the mode or the median.¹⁰⁷ However, the value is subject to the type of data. In the case of this study, the mode is used for a nominal variable and the median is preferred for an ordinal variable.

At this stage we shall summarize our sample by displaying the frequency distribution of each variable and indicate its measure of central tendency. These distributions will explain the relative incidence of a variable, which will indicate the commonness of each category in the sample.

¹⁰⁷ Hussey, J (1997), *Business Research*, Basingstoke: Palgrave Publisher, p. 202)

6.3.1 Part One-Your Backgrounds

This part has nine questions and its objective is primarily to discover more about the respondents' profiles and to understand the nature of the respondents who have been included in the sample. They were deliberately simple questions to answer in order to win the respondents' co-operation before moving on to more difficult questions in the next two parts of the questionnaire. However, this part provided some interesting information on the characteristics and individuality of the sample. The information gathered was considered significant for use in the statistical inferences at the next stage.

On age group, we discovered that none of our respondents was younger than 21 years old. This is due to the education factor. We believe it is unlikely that new school leavers with an SPM (Sijil Pelajaran Malaysia) ¹⁰⁸qualification (secondary education), and who would be at least 17 years old, would be represented among our respondents. Since the target respondents were managers and executives, their typical age must be 21 years old or over. However, those with the SPM qualification who are exactly 20 years old should be included if they were in the target group. Although the target group was defined to be managers and executives in the financial sector, we decided to include four regulators including *sharia* advisors in our data set for two reasons: firstly, because their roles are significant for the bonds industry; and secondly they represent the element of Islamic values in the practice of bond operations.

¹⁰⁸ Equivalent to GSCE grades 1 to 3.

For the job question, the respondents were ranked between senior management and junior management. However, we found that eight respondents did not identify themselves with any managerial level. We suspected that these respondents were unsure where to place their management rank. A cross reference of the education level with the managerial level shows a close correlation with the income bracket of the respondents. The same verification was done for the type of employer and the income level. These two cross-checks confirmed the validity of the income group and managerial level of the respondents.

The sample was drawn from the managers and officers of banking institutions and financial institutions, including contractual savings and mutual funds, who actively participate in the bonds market. As such, subject to sampling errors, we expect a close representation of the population parameters of the bonds community. We only defined our respondents as bond dealers who are dealing in, trading in and originating the debt securities. They act as issuers, investors and intermediaries. Hence this study is able to focus on the attitudes and perceptions of the bond dealers from the financial sector in Malaysia.

The profile of the respondents is shown in Table 6.2. The bonds market employs far fewer female executives than male counterparts. Over 85% of the respondents are male executives, a high percentage which we identified at the treasury department and the corporate finance departments of the respondents' corporate organizations. Interestingly, most have degrees in economics or finance and/or professional qualifications such as ACCA or CFA, while about 20% have sub-degree diplomas. A possible explanation for this is that some market organisations require highly educated personnel, whereas others can rely on the extensive work experience of their employees.

The bond dealing firms also appear to be biased in their hiring practices in favour of young executives. Interestingly, most respondents are younger than 43 years old. It is important to note that they are willing to enrol in a special training program in the field of Islamic finance and economics. However, most of the respondents have attended a seminar or short course in this field at least once but fewer than four times. They earn an average income of RM40,000 per year. They are predominantly compensated via a combination of salary, bonuses and allowances. Well over half (70%) have incomes of RM50,000 or more, while only 9.3 per cent make less than RM30,000.

The jobs classification of the respondents indicates their participation in the Malaysian bonds market, including both Islamic and conventional debt securities. They have a role in performing the core elements of Islamic bond financing. Finally, the bulk of bond dealers are involved in corporate financing (50%) and 27.8% in the money market and the capital market. The respondents had three job classifications as bond dealers. They had solid experience in the areas of corporate finance, treasury management and the capital market.

According to this survey, 22% (12, n=54) of the respondents have performed the treasury function. The respondents are responsible for routine placement of all debt instruments including bonds and other fixed income securities. The respondents working in the treasury department also deal with inter-bank deposits and short-term funds on the money market as well as with foreign currency transactions. As the authorized dealers, they also trade in government bonds and private debt securities, such as cagamas and corporate bonds.

Table 6.2: Respondents' Characteristics

| | Number n=54 | Percent Share |
|--|----------------|------------------|
| <i>Gender</i> | | |
| Male | 46 | 85.2 |
| Female | 8 | 14.8 |
| <i>Age</i> | | |
| 21-31 years | 15 | 27.8 |
| 32-42 years | 24 | 44.4 |
| 43-53 years | 15 | 27.8 |
| <i>Annual Income</i> | | |
| <RM10,000 | 1 | 1.9 |
| RM10,00-29,999 | 4 | 7.4 |
| RM30,00-49,999 | 11 | 20.4 |
| RM50,00-69,999 | 11 | 20.4 |
| RM70,00-89,999 | 9 | 16.7 |
| RM90,00-109,999 | 9 | 16.7 |
| >RM110,000 | 9 | 16.7 |
| <i>Level of Education</i> | | |
| PhD/Master | 17 | 31.5 |
| Professional Qualification | 3 | 5.6 |
| University First Degree | 24 | 44.4 |
| College Diploma | 8 | 14.8 |
| Primary | 2 | 3.7 |
| <i>Position of Job</i> | | |
| Senior management | 11 | 20.4 |
| Middle management | 25 | 46.3 |
| Junior management | 10 | 18.5 |
| Other | 8 | 14.8 |
| <i>Type of Job</i> | | |
| Finance Professional | 42 | 77.8 |
| State Corporation | 2 | 3.7 |
| Government | 8 | 14.8 |
| Sharia Scholar/cleric | 2 | 3.7 |
| <i>Attending Islamic course/seminar</i> | | |
| 1 time | 6 | 11.1 |
| 2-4 times | 33 | 61.1 |
| >4 times | 12 | 22.2 |
| none | 3 | 5.6 |
| <i>Having Economic/Finance/Management Degree</i> | | |
| Yes | 34 | 63.0 |
| No | 20 | 37.0 |
| <i>Willing to study Islamic Economics</i> | | |
| Strong possibility | 18 | 33.3 |
| May be | 27 | 50.0 |
| Don't know | 9 | 16.7 |

Table 6.3: Jobs Classification of the Respondents

| Unit | Function |
|-------------------|--|
| Corporate finance | Loans syndication Project financing Mergers and acquisitions Corporate debt restructuring |
| Treasury | Trading of government bonds and private debt securities Acceptance of inter-bank deposits and short-term funds Transaction of foreign currencies, on money market and bond market Treasury advice and cash management |
| Capital market | Origination and structuring of private debt securities and other capital market Securitization of Islamic financing and other asset securitization Structuring Islamic financial products |

Source: Compiled by author

Corporate finance is another important element of the respondents' job profiles. Moreover, 50% (27, n=54) of the respondents indicate that the executives in their organizations are involved in routine loan syndications, project financing and corporate debt restructuring as well as mergers and acquisitions. Within the capital market sector, specialized respondents are able to concentrate on origination and structuring of Islamic private debt instruments. The respondents are responsible for the securitization of Islamic financial products. Indeed, the respondents are involved in the underwriting of overall private debt securities and equity linked instruments since they are in charge of the capital market.

Table 6.4: Tasks performed by the respondents

| Task | Number | Percent | Total Respondents |
|--|--------|---------|-------------------|
| Organise underwriting of asset securitization | 15 | 27.8 | 54 |
| Process loans syndication | 27 | 50.0 | 54 |
| Arrange project financing | 27 | 50.0 | 54 |
| Structure private debt securities and capital instruments | 15 | 27.8 | 54 |
| Buy and sell government securities and corporate bonds | 12 | 22.2 | 54 |
| Organise mergers and acquisitions | 27 | 50.0 | 54 |
| Deal in foreign currencies, on money market and capital market | 12 | 22.2 | 54 |
| Accept inter-bank deposits and short-term funds | 12 | 22.2 | 54 |

Source: Bonds Survey, by author (September 2002)

As Table 6.4 indicates, the respondents perform a variety of tasks necessary to facilitate debt financing. The most important of these tasks is to organize asset securitization, to buy and sell government and corporate bonds, and to structure private debt securities and other capital market instruments. Other tasks involve corporate banking and treasury functions, but the respondents' tasks were found to vary by department. As in the treasury, the respondents act as dealers in the money market and bond market, while in corporate finance, they act as intermediaries between management and business clients for the application of project financing, corporate mergers and loan syndications.

6.4 CONCLUSIONS

The descriptive analysis in this chapter is the initial stage in the process of our data analysis. There were several unexpected patterns of response found in the data set and these include variables that logically should have been related but were not, correlations that were sometimes weaker than expected, and some patterns even seemed to contradict one another while others were simply inexplicable. These initial observations are needed in order to develop logical explanations related to the findings. Variables such as gender, age, education and income, for example, may reveal some bias in the sampling frame when we conduct the inferential analysis.

The variables have been prepared in a form that would be suitable for use in addressing the research questions. The data were organized, coded and verified before being processed and variables in some categories were collapsed and recoded to form new variables. The objective of a descriptive analysis is to describe the nature and characteristics of the sample and this has been explained using frequency distribution. This chapter aimed to summarise patterns in the responses without inferring characteristics to the respondents. The next chapter provides an idea about whether the patterns described in the sample are likely to represent the population from which the sample was drawn, and will attempt to conduct this analysis.

CHAPTER 7

RISK PERCEPTION AND DEALERS CHARACTERISTICS: A LOGLINEAR ANALYSIS

7.1 INTRODUCTION

Examining the multivariate analysis and inferential statistics will allow us to make judgments about the likely reliability of the population and provides us with conclusions about significant relationships in the given sample size. This chapter analyzes categorical data in the form of multi-way cross-tabulations using a log-linear model, which involves the interpretation of the simultaneous effects of a number of independent variables. This chapter will also test the hypothesis of our study. The next chapter covers how respondents form bond market opinions and what factors influence dealers when making make buy/sell decisions on Islamic bonds.

The objectives of this chapter are twofold: firstly, to find the simplest description of the relationship among three variables and, secondly, to test the significance of the influence of the variables. The focus of the analysis is on the interaction effects of education, job sector and managerial factors on risk perception of Islamic bond dealers. We employed the log-linear model which involves the exploration of further information from the survey sample. This may help us to explain patterns for further analysis.

The chapter is divided into four sections. Section 2 highlights methods applied in the analysis as well as the statistical tests used in testing nominal variables. This is followed by section three which describes the results of the log-linear analysis. Finally, section four presents conclusions from the chapter.

7.2 METHODS OF ANALYSIS

The main objective of log-linear models is to examine the relationships among categorical variables in the form of a contingency table. We used the analysis of $r \times c \times 1$ tables to test associations and interactions among a set of categorical variables.

In this study, we have used log-linear models for a number of reasons. The log-linear model offers a good statistical analysis for testing associations and interactions of categorical variables. It can provide a solution for a set of categorical dependent variables and for the non-distinctive variable between the dependent and independent variables.

Furthermore, in multiple cross-classification tables, the log-linear model will explore complex relationships and examine their interaction effects. We believed that the application of log-linear models would provide a better alternative to offering some solutions to these problems.

In obtaining a linear model, the natural logs of cell frequencies are used. A fully saturated model contains all possible main effects and interaction terms. Its multivariate tests of association determine whether the dependent variables are related or not to the independent variables.

SPSS HILOG-LINEAR uses the iterative proportional scaling algorithm with either the forward selection or backward elimination methods in model building. Since our interest is to include all possible interactions in the form of the saturated model, we employed the HILOG-LINEAR procedure rather than LOG-LINEAR (uses a more flexible but more complex algorithm). We wish to determine all possible interactions among a set of categorical variables such as education, job sector and managerial factors through an iterative process until we identify the best relationship.¹⁰⁹

Since we used backward elimination, we eliminate all effects in a model if the p value is greater than 0.05 until all interactions in the model have a significance level of 0.05. The final model will thus show the best fitting interaction that presents in a set of variables

When the study has at least two categorical dependent variables, the log-linear model is mainly useful. For example, we are interested in relationships among risk perception, job sector and managerial position. The model will describe association patterns among a set of categorical variables. All four variables are dependent variables - what is the main risk associated with Islamic bonds? (R=very important, not important), are you working in the professional finance sector? (S=yes, no), are you postgraduate? (E=yes, no) and are you senior manager or junior manager? (J=senior, junior).

With the log-linear model, we can describe six two-way associations and two three-way association as well as four main effects. The six two-way associations are Risk*Sector, Risk*Job, Job*Sector, Job*Edu, Edu*Sector and Edu*Risk. Four three-way associations are Risk*Sector*Job, Risk*Sector*Edu, Edu*Sector*Job and Risk*Edu*Job. The linear model tests whether each association is significant in the model.

¹⁰⁹ SPSS iteration involving more than five variables took many hours to process. This led us to limit the number of variables used in each of the model designs.

When more than two variables are related such as in four-dimensional tables, there may be an association between each pair of variables as well as interaction among all of them. To compute a chi-square test of independence for each sub-table usually does not result in a systematic evaluation of the relationships among a set of variables.¹¹⁰

Table 7.1: The Types of Statistical Analysis

| Independent variable | Dependent variable | Method of analysis |
|----------------------|--------------------|---------------------|
| Continuous | Continuous | Regression |
| | Categorical | Logistic regression |
| Categorical | Categorical | Log-linear model |
| | Continuous | ANOVA |
| Mixed | Continuous | ANOVA |
| | Categorical | Logistic regression |

Source: Hee-Jae Cho, (1997), *Quantitative Data Analysis for Social Scientists*, revised edition, London, Routledge.

In term of socio-economic status, some theorists argue that age and occupation will affect an individual's perception of the relative riskiness of investment alternatives (Barron 1976, Weber 1988). Barron found that risk rankings of a set of investment products among faculty members of a business school corresponded to the same socio-economic variables while, Weber studied the differences in risk perception between college students and school teachers associated with their age and occupation. Erica and Farakhbaksh (1998) argue that the risk in *mudaraba* includes the default risk in term of lower profit, no profit and loss.

¹¹⁰ See Nourisis (1993: p. 308)

In this study, three respondents group were identified on the basis of managerial level, occupation and education. The bond dealers including finance professional, fund managers and individuals dealers were asked about their perceptions of risk. The uni-dimensional perceptions could be represented by three possibilities of ex ante risks. They include the risks of no income payment, of delayed income and lower income risks. dimensions perceived by bond manager and investment professional.

The measure of association is an important step in explaining the theory concerning the nature of the phenomena we are studying. Risk perception of individual dealers may be influenced by education, occupation and managerial factors the information being derived from the survey questionnaires. Thus when analyzing data, we wish to know the answer to some of the following questions:

1. Will bond dealers who are senior in managerial level perceive risk better than those who are junior?
2. Do professional dealers have a different risk perception compared to non-professional dealers?
3. What are the dealers' attitudes toward the ex ante risk in the Islamic bond market?
4. Does the education level change the risk perceptions of Islamic bond dealers?

Further, we also examine whether all the main factors have interactive effects or combined influences against the perception of risks, for example is there any interaction between education and occupation, or between education and managerial level, or between occupation and managerial level against the dealers' ex ante risks dimensions.

7.3 EXPLORING RELATIONSHIP: A LOG LINEAR ANALYSIS

The ultimate objective of log-linear modelling is to determine the simplest description of the relationship among variables. To find a parsimonious relationship between the observed frequencies and expected frequencies with minimum parameters we may drop certain variables whose effects are not very important in the model. We can use λ^2 test to arrive at the simplest model which adequately fits the data in the cross-tabulation. The parameters μ and λ are estimated from the data in a way similar to coefficients a and b in the regression. μ refers to the average of the log of the frequencies, while λ refer to the differences between the average log and the frequencies in a particular category.

In general, the log-linear model is expressed as

$$\text{Log } F_{ij} = \mu + \lambda_i^R + \lambda_j^C + \lambda_{ij}^{RC}$$

where F_{ij} is the observed frequency in the respective cell R_iC_j

λ_i^R is the effect of the i th row variable

λ_j^C is the effect of the j th column variable

λ_{ij}^{RC} is the interaction effect for the i th and j th values of the respective variables

Thus in general the effects of a particular category of a variable described as the interaction effects and main effect are estimated as follows:

$$\lambda_{ij}^{RC} = \text{Log } F_{ij} - \mu + \lambda_i^R + \lambda_j^C$$

$$\lambda_i \text{VAR} = \mu_i - \mu,$$

where

μ_i is the mean of the logs in the category and

μ is the grand mean.

The effects of the categorical variables of job type, education and managerial position and the interaction of the first category of job with the first category of managerial level for the above example can be analyzed using log-linear modelling. For example we used a series of three log-linear models in our investigation of the relationship between job category and the risk perception of no income payment.

In the literature on Islamic bond dealers' attitudes we are interested in three questions:

- Does the socio-economic characteristics such as education, occupation and managerial level change the risk perceptions of Islamic bond dealers?
- Will there be any interactive effects of the above factors significantly influencing risk perception?
- Are dealers' uni-dimensional risk perception significantly influenced by the their individual preferences?

To answer the three research questions, the result will be subjected to a hierarchical log-linear analysis with a view to fitting the most parsimonious into the saturated model.

The full log-linear model in the analysis of risk perception by job category, education and managerial level is expressed as

$$\text{Log}(f_{a}) = \mu + \lambda_1^{\text{Edu}} + \lambda_2^{\text{Job}} + \lambda_3^{\text{Sector}} + \lambda_{12}^{\text{Edu*Job}} + \lambda_{13}^{\text{Edu*Sector}} + \lambda_{23}^{\text{Job*Sector}} + \lambda_{123}^{\text{Edu*Job*Sector}}$$

Where

f_a is the observed frequency in respective cell,

$\lambda_1^{\text{Edu}}, \lambda_2^{\text{Job}}, \lambda_3^{\text{Sector}}$ is the effect of the main variable and

$\lambda_{12}^{\text{Edu*Job}}, \lambda_{13}^{\text{Edu*Sector}}, \lambda_{23}^{\text{Job*Sector}}, \lambda_{123}^{\text{Edu*Job*Sector}}$, is the interaction effect.

The term μ is comparable to the grand mean in the analysis of variance (ANOVA) and is simply the average of the logs of the frequencies in all the table cells. On the other hand the lambda parameter is estimated by finding the differences between the average log of the frequencies in a particular category and the grand mean.

A fully saturated log-linear model is one that contains all possible main effects and interaction terms. However, representing an observed frequency table with such a model does not necessary result in a simple description of the relationship among variables. Nevertheless, it serves a good starting point for us to explore other models that could be used to represent the data. For example we may later wish to develop what is termed an independence model where only the main effects are included or a saturated model where all possible parameters are included.

The generation of the independence model is comparable to the chi-square test of independence between the observed and expected frequencies of the cells count. The Pearson and likelihood ratio chi-square would then be computed for the goodness of fit test.

The first model, referred to as [EJS], includes the three variable interaction terms possible in a three-variable model and is equivalent to an equation of

$$\text{Log}(fa) = \mu + \lambda_1^{\text{Edu}} + \lambda_2^{\text{Job}} + \lambda_3^{\text{Sector}} + \lambda_{12}^{\text{Edu*Job}} + \lambda_{13}^{\text{Edu*Sector}} + \lambda_{23}^{\text{Job*Sector}}$$

The only term missing from the full saturated model which would reproduce the observed cell frequencies exactly is the three-way interaction term $\lambda_{123}^{\text{EJS}}$.

7.3.1 Model Selection

The same guidelines apply for selecting log-linear models as apply in regression analysis. The model chosen should be the one that best fits the data, be substantively interpretable and be as simple as possible. Since models of higher-order interaction terms are difficult to interpret given a choice they should not be selected.

There are basically two types of variable selection algorithms, the forward selection and the backward elimination algorithms. The former adds effects to a model while the latter starts with all effects in a model and then removes those that do not satisfy the criterion for remaining in the model. By default the HILOG-LINEAR criterion for remaining in a model is to have an observed significance level of less than 0.05 in the change of likelihood-ratio chi square value for each iteration. Since backward elimination appears to be the better procedure for model selection we shall be using it in our analysis¹¹¹.

¹¹¹ See Benedetti and Brown (1978)

We had designed a hypothetical model of three hilog-linear models to include the set of independent factors of EDU, JOB, and SECTOR in order to see the presence of an interaction with different risk dimensions. The risk dimensions include no income payment, delayed income and lower income.

Model Design A

In this design we observed the interaction of four variables namely EDU, JOB, SECTOR and RISK (of no income payment). The design used the backward elimination method, with the default p value of 0.05 as the criterion for removal of any non-significant interactions.

Table 7.2: Interrelationship between education, job sector and managerial level

| Design | Df | λ^2 | P |
|----------|----|-------------|-------|
| [EJS] | 45 | 0.474 | >0.05 |
| [EJ] | 15 | 20.392 | >0.05 |
| [ES] | 15 | 20.287 | >0.05 |
| [E] | 5 | 54.21 | <0.05 |
| [S] | 3 | 71.690 | <0.05 |
| [J*RISK] | 9 | 12.871 | >0.05 |

Key: E= education background of the respondents
J= position of respondent in management
S= sector of respondent's job

The value of chi-square with 45 degrees of freedom gives a level of significance of $P>0.05$ - a non-significant result. Since there is no statistically significant difference between the observed frequencies and those predicted by the model i.e. omitting the EJS interaction, we can conclude that the three-way interaction EJS does not contribute significantly to the frequencies predicted under the model. The interpretation is that the relationship between education and job sector is not significantly different for the respondents' managerial level.

We further identified what the important relationships actually are. We re-ran the analysis dropping the two-way interaction terms to determine if there are significant independent effects for job sector and /or managerial position by education level [ES] [EJ] as well as by the effect for managerial position by job sector [ES]. Looking at the values of P given that are >0.05 , we can conclude that two-way interaction effects of education level by job sector and managerial position by job sector do not contribute significantly to a model in which the predicted frequencies do not fit the observed frequencies well, while the main effect of education and job sector do.

Output listing 1A indicates the number of cases and variables involved. The level within factor information shows the number of categories within each variable.

Output Listing 1A

Information about the data and the factors

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

DATA Information

54 unweighted cases accepted.
 0 cases rejected because of out-of-range factor values.
 0 cases rejected because of missing data.
 54 weighted cases will be used in the analysis.

FACTOR Information

| Factor | Level | Label |
|--------|-------|------------------------|
| EDU | 6 | Formal Education |
| SECTOR | 4 | Sector Working |
| JOB | 4 | Job Position |
| R20C | 4 | Risk No Income Payment |

Output listings 2A to 4A show the results of the process - by default the removal criterion at every step of the iteration is set at $p=0.05$. All interactions with the largest p value exceeding 0.05 are removed until all the remaining interactions have a p value of less

than 0.05. This concept is quite similar to the change in R squared values in regression analysis whereby the larger the values the better the model. The model containing the remaining effects is then adopted as the final model. In this design, the final model is reached after ten steps.

Output Listing 2A shows saturated model, EDU*JOB*SECTOR*R20C to the cell frequencies. The model starts with all main effects and their possible interactions, and progresses down the hierarchy of complexity, eliminating each effect from the model step by step until no further elimination produces a decrement with a probability greater than 0.05.

Output Listing 2A
Step 1 of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

Backward Elimination (p = .050) for DESIGN 1 with generating class

EDU*JOB*R20C
EDU*JOB*SECTOR
EDU*R20C*SECTOR
JOB*R20C*SECTOR

Likelihood ratio chi square = .18165 DF = 135 P = 1.000

- - - - -

| If Deleted Simple Effect is | DF | L.R. Chisq Change | Prob | Iter |
|-----------------------------|----|-------------------|--------|------|
| EDU*JOB*R20C | 45 | 11.176 | 1.0000 | 4 |
| EDU*JOB*SECTOR | 45 | .474 | 1.0000 | 4 |

Step 1

The best model has generating class

EDU*JOB*R20C
EDU*R20C*SECTOR
JOB*R20C*SECTOR

Likelihood ratio chi square = .65527 DF = 180 P = 1.000

- - - - -

Output Listing 3A examines the three way interactions and rejects p values greater than 0.05 (p=.9995 and .9911) with a chi-square of 20.032 and 12.692, and 45 and 27 degree of freedom respectively.

Output Listing 3A
Step 3 of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

| If Deleted Simple Effect is | DF | L.R. Chisq Change | Prob | Iter |
|-----------------------------|----|-------------------|-------|------|
| EDU*JOB*R20C | 45 | 20.032 | .9995 | 4 |
| JOB*R20C*SECTOR | 27 | 12.692 | .9911 | 5 |
| EDU*SECTOR | 15 | 20.287 | .1612 | 2 |

Step 3

The best model has generating class

EDU*SECTOR
EDU*JOB
EDU*R20C

Likelihood ratio chi square = 21.18020 DF = 270 P = 1.000

At step 3, EDU* JOB *R20C and JOB*R20C*SECTOR are eliminated because they do not meet the criterion level of 0.05. Neither of these effects can be retained since its probability is greater than 0.05. Having processed all the interactions, the 2 way interactions EDU*SECTOR and EDU*JOB are to be included.

Output Listing 4A
The final step of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

| If Deleted Simple Effect is | DF | L.R. Chisq | Change | Prob | Iter |
|-----------------------------|----|------------|--------|-------|------|
| JOB*R20C | 9 | | 12.871 | .1685 | 2 |
| EDU | 5 | | 54.211 | .0000 | 2 |
| SECTOR | 3 | | 71.690 | .0000 | 2 |

Step 10

The best model has generating class

EDU
SECTOR
JOB
R20C

Likelihood ratio chi square = 110.64740 DF = 369 P = 1.000

- - - - -
 * * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

The final model has generating class

EDU
SECTOR
JOB
R20C

The Iterative Proportional Fit algorithm converged at iteration 0.
 The maximum difference between observed and fitted marginal totals is
 .107 and the convergence criterion is .250

The backward elimination is continued until the tenth step. Output Listing 4A shows that neither of the two main effects - education and job sector could be removed. At this stage all p values were much smaller than 0.05 and the last column indicated the number of iterations required to achieve convergence for the respective main effects.

The final model includes three main effects and any interaction effects having a p value for chi square lower than 0.05. There is statistically significant difference between the observed frequencies and those predicted by the model. Thus the conclusion is that the main effects of managerial position, education and job sector appear to influence the respondents' perception of risk of no income, whereas no interaction effects appear to influence the respondents' perception of such risk.

Model Design B

There were four variables involved in this model namely EDU, JOB, SECTOR and RISK (of lower income). Our objective is to examine whether the three variables of independent factors such as education level, the job sector and managerial position affect the respondents' perception of the risk of lower income. As in the previous design, we used the backward elimination method, with the default p value of 0.05 as the criterion for removal of any non-significant interactions.

Table 7.3: Interrelationship between education, job sector and managerial level

| Design | Df | λ^2 | P |
|--------|----|-------------|-------|
| [EJS] | 45 | 11.111 | >0.05 |
| [EJ] | 15 | 17.362 | >0.05 |
| [ES] | 15 | 22.245 | >0.05 |
| [JS] | 9 | 5.924 | >0.05 |
| [S] | 3 | 71.690 | <0.05 |
| [E] | 5 | 54.211 | <0.05 |
| [J] | 3 | 11.93 | <0.05 |

Key: E= education background of the respondents
J= position of respondent in management
S= sector of respondent's job

The value of chi-square with 45 degrees of freedom gives a level of significance of $P>0.05$ - a non-significant result. There is no statistically significant difference between the observed frequencies and those predicted by the model i.e. omitting the EJS interaction. We can conclude that the three-way interaction EJS does not contribute significantly to the frequencies predicted under the model. The interpretation is that the relationship between education and job sector is not significantly different for the respondent by managerial level.

We further identified what the important relationships actually are. We re-ran the analysis dropping the two-way interaction terms to determine if there are significant independent effects for job sector and /or managerial position by education level [ES] [EJ] as well as by the effect for managerial position by job sector [JS]. Looking at the values of P given that are >0.05 , we can conclude that two-way interaction effects of education level by job sector and managerial position by job sector do not contribute significantly to a model in which the predicted frequencies do not fit the observed frequencies well, while the main effect of managerial position , education and job sector do.

Output listing 1B indicates the number of cases and variables involved. The level within factor information shows the number of categories within each variable.

Output Listing 1B
Information about the data and the factors

* * H I E R A R C H I C A L L O G L I N E A R * * * * *
 DATA Information

54 unweighted cases accepted.
 0 cases rejected because of out-of-range factor values.
 0 cases rejected because of missing data.
 54 weighted cases will be used in the analysis.

FACTOR Information

| Factor | Level | Label |
|--------|-------|-------------------|
| EDU | 6 | Formal Education |
| SECTOR | 4 | Sector Working |
| JOB | 4 | Job Position |
| R20A | 4 | Risk Income lower |

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Output Listing 2B
Step 1 of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

Backward Elimination (p = .050) for DESIGN 1 with generating class

EDU*R20A
JOB*R20A
R20A*SECTOR
EDU*JOB*SECTOR

Likelihood ratio chi square = 21.62392 DF = 252 P = 1.000

| If Deleted Simple Effect is | DF | L.R. | Chisq Change | Prob | Iter |
|-----------------------------|----|------|--------------|--------|------|
| EDU*R20A | 15 | | 17.407 | .2951 | 3 |
| JOB*R20A | 9 | | 12.231 | .2006 | 4 |
| R20A*SECTOR | 9 | | 12.859 | .1691 | 4 |
| EDU*JOB*SECTOR | 45 | | 11.111 | 1.0000 | 6 |

Step 1

The best model has generating class

EDU*R20A
JOB*R20A
R20A*SECTOR
EDU*JOB
EDU*SECTOR
JOB*SECTOR

Likelihood ratio chi square = 32.73450 DF = 297 P = 1.000

At step 2 (having processed all interactions), JOB*SECTOR is eliminated because it does not meet the criterion level of 0.05. This effect cannot be retained since its probability is greater than 0.05.

Output Listing 3B Step 2 of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

| If Deleted Simple Effect is | DF | L.R. Chisq Change | Prob | Iter |
|-----------------------------|----|-------------------|-------|------|
| EDU*R20A | 15 | 16.514 | .3487 | 4 |
| JOB*R20A | 9 | 11.397 | .2495 | 4 |
| R20A*SECTOR | 9 | 11.970 | .2150 | 4 |
| EDU*JOB | 15 | 17.362 | .2977 | 5 |
| EDU*SECTOR | 15 | 22.245 | .1015 | 4 |
| JOB*SECTOR | 9 | 5.924 | .7475 | 5 |

Step 2

The best model has generating class

EDU*R20A
JOB*R20A
R20A*SECTOR
EDU*JOB
EDU*SECTOR

Likelihood ratio chi square = 38.65848 DF = 306 P = 1.000

Output Listing 4B shows the final model which includes the main effect of managerial position, education and job sector. The most interesting finding is none of the interactions effects of job sector, managerial position or education influence the dealers' perception of risk. The chi square shows that the two interactions do not contribute significantly to the frequencies predicted under the model (p value is greater than 0.05). The final model, based on the main effect of managerial position, education and job category, provides an excellent fit to the data. Thus the conclusion is that only main effects appear to influence the dealers' perception of risk of lower income.

Output Listing 4B
The final step of the log-linear analysis

***** H I E R A R C H I C A L L O G L I N E A R *****

Step 7

SECTOR

Likelihood ratio chi square = 109.14937 DF = 369 P = 1.000

| If Deleted Simple Effect is | DF | L.R. Chisq Change | Prob | Iter |
|-----------------------------|----|-------------------|-------|------|
| JOB | 3 | 11.930 | .0076 | 2 |
| R20A | 3 | 27.969 | .0000 | 2 |
| EDU | 5 | 54.211 | .0000 | 2 |
| SECTOR | 3 | 71.690 | .0000 | 2 |

Step 8

The best model has generating class

JOB
R20A
EDU
SECTOR

Likelihood ratio chi square = 109.14937 DF = 369 P = 1.000

***** H I E R A R C H I C A L L O G L I N E A R *****

The final model has generating class

JOB
R20A
EDU
SECTOR

The Iterative Proportional Fit algorithm converged at iteration 0.
The maximum difference between observed and fitted marginal totals is .000
and the convergence criterion is .250

Model Design C

Likewise this design involved four variables namely EDU, JOB, SECTOR and RISK (of delayed income). We are interested in studying the interaction effect of the three independent factors of education level, job sector and managerial position on the respondents' perception of the risk of delayed income.

Table 7.4: Interrelationship between education, job sector and managerial level

| Design | Df | λ^2 | P |
|--------|----|-------------|-------|
| [EJS] | 45 | 11.395 | >0.05 |
| [EJ] | 15 | 20.055 | >0.05 |
| [ES] | 15 | 23.910 | >0.05 |
| [JS] | 9 | 6.106 | >0.05 |
| [S] | 3 | 69.425 | <0.05 |
| [E] | 5 | 52.273 | <0.05 |
| [J] | 3 | 10.719 | <0.05 |

Key: E= education background of the respondents
J= position of respondent in management
S= sector of respondent's job

The value of chi-square with 45 degrees of freedom gives a level of significance of $P>0.05$ - a non-significant result. There is no statistically significant difference between the observed frequencies and those predicted by the model with the EJS interaction omitted. We can conclude that the three-way interaction EJS does not contribute significantly to fitting the frequencies predicted under the model to the observed frequencies. The interpretation is that the relationship between education, job and managerial level does not significantly affect the respondents' perception of risk.

We further identified what the important interactions actually are. We re-ran the analysis dropping the two-way interaction terms to determine if there are significant independent effects for job sector and /or managerial position by education level [ES] [EJ] as well as for the effect by managerial position and job category [JS]. Looking at the values of P given that are >0.05 , we can conclude that two-way interaction effects of education level by job sector and managerial position by job sector do not contribute significantly to a model in which the predicted frequencies fit the observed frequencies well, while the main effects of education, managerial position and job sector do. This design also used the backward elimination method, with the default p value of 0.05 as the criterion for removal of any non-significant interactions.

Output listing 1C indicates the number of cases and variables involved. The level within factor information shows the number of categories within each variable.

Output Listing 1C

Information about the data and the factors

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

DATA Information

53 unweighted cases accepted.
 1 cases rejected because of out-of-range factor values.
 0 cases rejected because of missing data.
 53 weighted cases will be used in the analysis.

FACTOR Information

| Factor | Level | Label |
|--------|-------|---------------------------|
| EDU | 6 | Formal Education |
| SECTOR | 4 | Sector Working |
| JOB | 4 | Job Position |
| R20B | 4 | Risk Delay Income Payment |

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Output listing 2C shows the backward elimination method and all three-way interactions. The procedure starts with all main factors and their possible interactions, and progresses down the hierarchy of complexity, eliminating each effect from the model step by step until no further elimination produces a decrement with a probability greater than 0.05. The model containing the remaining effects is then adopted as the final model.

Output Listing 2C
Step 1 of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

Backward Elimination (p = .050) for DESIGN 1 with generating class

EDU*R20B
JOB*R20B
R20B*SECTOR
EDU*JOB*SECTOR

Likelihood ratio chi square = 15.99383 DF = 252 P = 1.000

| If Deleted Simple Effect is | DF | L.R. Chisq Change | Prob | Iter |
|-----------------------------|----|-------------------|--------|------|
| EDU*R20B | 15 | 14.821 | .4644 | 3 |
| JOB*R20B | 9 | 14.365 | .1099 | 6 |
| R20B*SECTOR | 9 | 9.657 | .3789 | 4 |
| EDU*JOB*SECTOR | 45 | 11.395 | 1.0000 | 7 |

Step 1

The best model has generating class

EDU*R20B
JOB*R20B
R20B*SECTOR

At step 2, EDU*SECTOR, EDU*JOB and JOB*SECTOR are eliminated because they do not meet the criterion level of 0.05. Neither of these two-way interaction effects can be retained since their probability is greater than 0.05.

Output Listing 3C
Step 2 of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

| If Deleted Simple Effect is | DF | L.R. Chisq Change | Prob | Iter |
|-----------------------------|----|-------------------|-------|------|
| EDU*R20B | 15 | 13.696 | .5487 | 4 |
| JOB*R20B | 9 | 13.219 | .1529 | 6 |
| R20B*SECTOR | 9 | 8.536 | .4811 | 4 |
| EDU*JOB | 15 | 20.055 | .1698 | 5 |
| EDU*SECTOR | 15 | 23.910 | .0666 | 4 |
| JOB*SECTOR | 9 | 6.106 | .7293 | 6 |

Step 2

The best model has generating class

EDU*R20B
 JOB*R20B
 R20B*SECTOR

Step 2

EDU*JOB
 EDU*SECTOR

Likelihood ratio chi square = 33.49408 DF = 306 P = 1.000

In this case, backward elimination continued until the eighth step. Output Listing 4C shows that none of three main effects could be removed. At this stage all p values are much smaller than 0.05 and two iterations were required to achieve convergence for the respective main effects.

The final model includes the main effect of education, job sector and managerial position. The most interesting finding is none of the interaction effects of education, job sector and managerial position influence the respondents' risk perception. The value of chi square shows that these expected frequencies differ significantly from the observed frequencies (the p value is greater than 0.05). Thus the final model is based on the main effects of education, job sector and managerial position which provides an excellent fit to the data.

Output Listing 4C
The final step of the log-linear analysis

* * * * * H I E R A R C H I C A L L O G L I N E A R * * * * *

Step 7

| ----- | | | | | |
|-----------------------------|----|------|--------------|-------|------|
| If Deleted Simple Effect is | DF | L.R. | Chisq Change | Prob | Iter |
| JOB | 3 | | 10.719 | .0133 | 2 |
| R20B | 3 | | 43.298 | .0000 | 2 |
| EDU | 5 | | 52.273 | .0000 | 2 |
| SECTOR | 3 | | 69.425 | .0000 | 2 |

Step 8

The best model has generating class

JOB
R20B
EDU
SECTOR

Likelihood ratio chi square = 95.02419 DF = 369 P = 1.000

The final model has generating class

JOB
R20B
EDU
SECTOR

The Iterative Proportional Fit algorithm converged at iteration 0.
The maximum difference between observed and fitted marginal totals is .000 and the
convergence criterion is .250

We can conclude that there is no overall significant evidence that interaction effects of job sector, education and managerial position influence the respondents' perception of risk of delayed income. There are however significant main effects of education, job sector and managerial position on the respondents' perception of risk.

7.4 CONCLUSIONS

The purpose of this chapter is to explore the possibility of drawing detailed information from that given by the respondents to the questionnaire survey by employing the SPSS Hierarchical Log-linear procedure. The main aim of the log-linear models was to examine whether the main effect and interaction effects of education, job sector and managerial position have significant influence on the respondents' perception of risk.

In carrying out the HILOG-LINEAR procedure, the initial expectation was that the model design would generate some conclusive evidence on the abstract hypothetical theory suggested earlier. We attempted to determine the relevance of the variables being used to test the hypothetical relationships between the respondents' perception of risk and the various independent factors collectively. However, in all the designs, the final model generates only first order effects. Since the observed significance levels are large for all the three-way and two-way interaction, these confirm that the main effect is sufficient to explain the relationships of the variables involved.

All the models are seen to reaffirm that the main effect of the independent factors education level, job sector and managerial position influence the dependent variables of risk perception. These results had been identified for the cases of risk perception of no income payment, of lower income and of delayed income. None of the interaction effects of education, managerial position and job sector significantly influence the respondents' perception of risk. In the next chapter, we will explain how dealers make a buy /sell decision on Islamic bonds.

CHAPTER 8

DETERMINANT FACTORS OF ISLAMIC BONDS INVESTMENT: A FACTOR ANALYSIS

8.1 INTRODUCTION

In the previous chapter we tested relationships among a set of variables using a log- linear model. The primary concerns in multi-way cross-tabulation are the interaction and main effects of education, job sector and managerial factors on the respondents' perception of risk. We used SPSS log linear analysis, namely HILOGLINEAR, to explore the categorical data among the variables in a multi-way cross tabulation. Log linear modelling is similar to multiple regression models.

In the last chapter, we were interested in analyzing all possible interactions that appeared in the saturated model. The HILOGLINEAR procedure enabled us to identify the significance of a set of variables that best represents the interaction and main effects among all these variables. We defined variables such as education, occupation and managerial level using the HILOGLINEAR backward elimination to select a model deriving from our hypothetical model.

The objective of this chapter is to identify a relatively small number of factors that can be used to summarize relationships among a set of interrelated variables. We used factor analysis to discover the essential underlying dimensions which could help us in explaining complex phenomena and in summarizing the original large variable set into a simple comprehensible format. This chapter is divided into four main sections. Section two explains the factors which are important when making a buy /sell decision on Islamic bonds. Section

three discusses the factor analysis and its corresponding results. Finally, section four discussed the conclusions from the chapter.

8.2 HOW DEALERS BUY BONDS

The introduction of an Islamic financial market was an important development in the Malaysian financial system. Although there is no evidence that the inception of the Islamic capital market will threaten the existing financial market, nevertheless the Islamic bond market now provides an option in decisions on fixed income securities.

We will determine the factors that are considered important by dealers in Islamic bonds in investment decisions. This section examines how dealers form bond market opinions and make buy/sell decisions on Islamic bonds. Specifically the two main hypotheses to be tested are:

1. Islamic dealers are motivated by economic and religious factors that influence their decisions in buying and purchasing Islamic bonds.
2. As the Islamic bond dealers also deal in conventional bonds then the selection criteria for Islamic bonds do not differ except in the avoidance of interest.

Previous studies reported showed that liquidity (Beikos, 1997) and knowledge of the issuer (Financial Issues, 2002) are the main criteria that influence bond managers' decision. The firm's size and leverage (Fisher, 1959) are also important in corporate bond selection, while the firm's size, leverage and dividend records (Shalit and Ben-Zion, 1975) determine the equity investment.

Previous empirical studies such as those by Kader (1993), Haron et al (1994) and Gerard and Cunningham (1997), showed that the *sharia* principle is not significant to customers in selecting Islamic banks, in contrast Metawa and Alamosawi (1998) found religion as the most important reason for customers patronising Islamic banks.

However, in the Islamic bond selections we used a wide range of criteria. These include *sharia*, quality of issuer, risk types and economic reasons as the most important factors for dealers in buying and selling bonds. We also include a firm's strategic perspective, excellent R&D, a strong board of directors and being an established company.

As shown in Table 8.1, investing in Islamic bonds as a financing option is the most important factor when bond and fund managers form bond market opinions. This phenomenon is quite obvious since Malaysia has adopted a dual financial system in which the conventional financial market and the Islamic financial market operate side by side. One of the economic incentives for fund and bond managers who switch to Islamic bonds is to search for cheap funding so that they will optimize investment returns as well as using this bond market as a platform to escape from the liquidity traps of the interest based banking system. Many fixed income dealers have a growing interest in transactions in Islamic bonds as a measure to cover deficiencies of the bank loan market. Another reason for the investment is to capitalize on long term funding opportunities from the Islamic bond market.

Table 8.1 : Economic reasons to invest in the Islamic bond market

| Factor | Rank | Means | Std deviation |
|---|------|-------|---------------|
| Favourable alternative of financing sources | 1 | 3.61 | 1.09 |
| Minimize funding cost impact | 2 | 3.56 | 1.21 |
| Growing Islamic financial market | 3 | 3.07 | 1.37 |
| To cover deficiencies in bank loan market | 4 | 2.67 | 1.59 |
| Supplementary role of long-term funding | 5 | 2.22 | 1.33 |

Apart from the economic rationale, there is constant pressure from the demand side of fixed income investments to account for why dealers purchase Islamic debt instruments. In a competitive market environment, bond and fund managers are making increasing commitments in the interest free investment as well as being very sensitive to *sharia* issue. These trends are shown in Table 8.2 below. However, it is hard to isolate the fundamental reasons for bond financing, either Islamic or conventional, in terms of liquidity purpose and regulatory motives. Of course, bond and fund managers also consider the economic benefits of the product as the criteria for buying or selling Islamic bonds.

Table 8.2: Why dealers buy Islamic bonds

| Factor | Rank | Means | Std Deviation |
|----------------------|------|-------|---------------|
| Interest-free | 1 | 4.61 | 1.29 |
| Sharia issues | 2 | 3.94 | 1.62 |
| Liquidity reasons | 3 | 3.74 | 1.48 |
| Alternative products | 4 | 3.39 | 1.50 |
| Economic benefits | 5 | 3.197 | 1.75 |
| Regulatory purposes | 6 | 2.17 | 1.58 |

When making a buy /sell decision on Islamic bonds knowledge of the issuer is deemed equally important to Islamic bond and fund managers. The main reason for this is that in Malaysia most of these managers are the same person either as an Islamic market player or otherwise. The difference is only in the debt instruments they trade and the market they are involved in. The most important factor in rating the issuers is the financial guarantee by the banking institutions. Bond and fund managers value a low debt ratio and a long history for the issuer when making their bonds investment. In this survey it seemed important for bond dealers not only to know the strategic perspective of the organisation but also to know who the board of directors of issuing companies are.

Table 8.3: How dealers rate the bond issuers

| Factor | Rank | Means | Std deviation |
|-------------------------|------|-------|---------------|
| Guaranteed by the banks | 1 | 4.81 | 2.12 |
| Low debt ratio | 2 | 4.76 | 1.44 |
| Established company | 3 | 4.63 | 1.96 |
| Strategic companies | 4 | 3.74 | 1.59 |
| Strong BoD | 5 | 3.57 | 1.37 |
| Excellent R&D | 6 | 2.24 | 1.48 |

Bond and fund managers have to justify the risks of Islamic bonds investment. No matter how attractive the Islamic debt securities may be, there is a constant pressure from the acquisition side of bond financing because they involve an uncertainty factor. The impact is greater than for conventional bond investors especially if we compare Islamic debts instruments such as *musharaka* or *mudaraba* bonds. Apart from credit risks, the dealers worried about liquidity and the shrinkage of purchasing power resulting from the Islamic debt securities. Dealers also evaluate the risk of unforeseen circumstances, the loss of reinvestment opportunities and foreign currency exposure as important risks when making decisions on Islamic bond investments.

Table 8.4 How important are the following risks in affecting a buy/sell decision for Islamic bonds

| Factor | Rank | Means | Std Deviation |
|-------------------|------|-------|------------------|
| Credit risk | 1 | 5.09 | 1.55 |
| Liquidity risk | 2 | 3.94 | 1.41 |
| Inflation risk | 3 | 3.33 | 1.63 |
| Event risk | 4 | 3.13 | 1.35 |
| Reinvestment risk | 5 | 2.96 | 1.76 |
| Currency risk | 6 | 2.69 | 1.38 |

8.3 DETERMINANTS OF BOND SELECTION: FACTOR ANALYSIS

8.3.1 The concepts

The findings in the preceding section seem to suggest that fund and bond managers have generally perceived the economic advantages of the Islamic bond market as alternative source of financing, to minimize funding cost and to seize economic opportunities in the growing Islamic finance sector. Fund and bond managers are highly motivated to conduct transactions in Islamic bonds because of *sharia* factors and liquidity reasons. There is some compromise between religious motives and economic reason as reflected by the high ranking in their bond selection criteria.

This section will attempt to determine which of these factors are of more influence. Using the factor analysis, sets of variables in our data can be clustered into feasible factors; each represents an underlying property which is shared by a certain group of variables. In this analysis, a list of twenty three variables which are likely to have influenced dealers' decision in selecting bonds will be analyzed. A sample of 54 fund and bond managers and dealers in the Kuala Lumpur Financial District was surveyed. These samples are tested on

several variables, to identify possible determinant factors in selecting bonds including factors such as liquidity reasons, *sharia* issues, strategic perspective of companies and reinvestment risk.

The most important advantage of factor analysis is the data reduction procedure which enables the transformation of the original large set of variables into a relatively small set of factors or components that may be representative of the data. The object of factor analysis is to discover the essential underlying dimensions and to summarize them into a simple and comprehensible form which explains the complex phenomena. In the context of our study, the respondents' views from the survey questionnaires can be simplified into a smaller set of common factors underlying individual responses. Thus, through SPSS Factor Analysis, from the twenty-three variables, we can analyze and select a certain set of variables that best represent the opinions of respondents on Islamic bond investments.

Two available analytical methods are exploratory and confirmatory factor analysis. Confirmatory analysis compares the results of analysis with the hypothetical model, while exploratory analysis examines the relationship among many variables but ignores whether the result of analysis fits a particular model. In other words, exploratory analysis enables us to discover new concepts, whereas confirmatory analysis enables us to test hypotheses.

The factor analysis¹¹² usually involves three stages namely;

1. Preparation of a correlation matrix.
2. Extraction of initial factors
3. Rotation to a terminal solution.

¹¹² See page 473, Nie, Norman H (1975), *Statistical Package for the Social Sciences*, second edition, New York: Mc Graw Hill Book Company.

The first stage, preparation of a correlation matrix, involves the computation of all variables and the selection of the relevant components of factors in the sample data. A correlation matrix shows the relevant components or factors that are significantly related to other variables (with a correlation coefficient of at least 0.09). We can calculate either the correlation between variables (type R) or correlation between units (type Q). The former refers to correlation between each pair of social characteristics, while the latter refers to correlation between each pair of individuals. In this survey we used type R - the most common method.

The second step, extraction of initial factors involves the task of exploring the numbers of common factor required to describe the data. The selection of initial factors is based on the Eigenvalues (of greater than 1) and the percentage of total variance by different sets of factor. The purpose is to determine a possible reduction of data by transforming the original data into mathematical values on the basis of principal component analysis. The two main methods are principal components analysis and principal axis factoring. The former analyses all the variance of a variable, while the latter examines only the common variances. In this study, we use principal components analysis to extract a set of variables as simple as possible.

In order to transform the factors into a more interpretable form, we need to proceed to the final step called factor rotation. The objective of the rotation procedure is to group the variables having large loadings (correlation) for the same factors so that each factor will be represented by a unique and specific cluster of variables. The rotation overcomes the problem of many variables loading on several factors which make the results very difficult to interpret.

The rotation will identify and summarize factors that are closely related in the data. This is done by one of two rotational methods depending upon a given research problem. These methods are orthogonal (uncorrelated) and oblique (correlated). The orthogonal method forces out factors that are independent, while the oblique method determines factors which are dependent on each other. The rotated factor analysis is a crucial matrix to interpret the result of the factor analysis.¹¹³ The variables which correlated (loaded) most highly with the first factor are clustered together and rearranged in descending order according to the correlation coefficient. Next variables which correlate strongly with second factor are clustered and so on.

8.3.2 The Results

The SPSS Factor Analysis helps us to select a certain sets of variables that best represent the respondents' opinions on the Islamic bond market from twenty-three variables. For the purpose of this exercise, we chose exploratory factor analysis which involves the examination of relationships between a set of variables.

Table 8.5 shows that initially factor analysis will extract twenty-three factors from the twenty-three variables. One of the purposes of the initial extraction is to indicate the Eigenvalues or variance accounted for by each factor which will help us to determine the number of factors to be extracted. Communality refers to the proportion of variances that each variable explains of the numbers of factor extracted. Notice that the values of communalities no longer remained 1.0 because not all the variance was explained when only a sub set of factors was retained.

¹¹³ Ibid see page 473, Nie, Norman H (1975).

Using the principal components method, we analyzed all the variance of a variable which includes common and unique variances. There were twenty-three variables involved in our analysis and each variable has been standardized to have a variance of 1.00.

Table 8.5
Communalities

| | Initial | Extraction |
|-------------------------------------|---------|------------|
| To Cover Deficiencies | 1.000 | .763 |
| A Most Favorable Alternative | 1.000 | .803 |
| Minimize Impact Financial Market | 1.000 | .820 |
| Growing Islamic Finance | 1.000 | .847 |
| Play Supplementary Role | 1.000 | .773 |
| Credit Risk | 1.000 | .792 |
| Inflation Risk | 1.000 | .784 |
| Event Risk | 1.000 | .755 |
| Currency Risk | 1.000 | .736 |
| Liquidity Risk | 1.000 | .825 |
| Reinvestment Risk | 1.000 | .795 |
| Liquidity Reason | 1.000 | .703 |
| Interest-free Investment | 1.000 | .719 |
| Sharia Issue | 1.000 | .774 |
| Alternative Product | 1.000 | .714 |
| The Economics Benefits | 1.000 | .711 |
| Regulatory Purpose | 1.000 | .754 |
| Guaranteed By Bank | 1.000 | .711 |
| Low Debt Ratio | 1.000 | .671 |
| Strategic Company | 1.000 | .766 |
| Strong BOD | 1.000 | .853 |
| Excellent R & D | 1.000 | .667 |
| Long Established Company | 1.000 | .613 |

Extraction Method: Principal Component Analysis.

Table 8.6**Total Variance Explained**

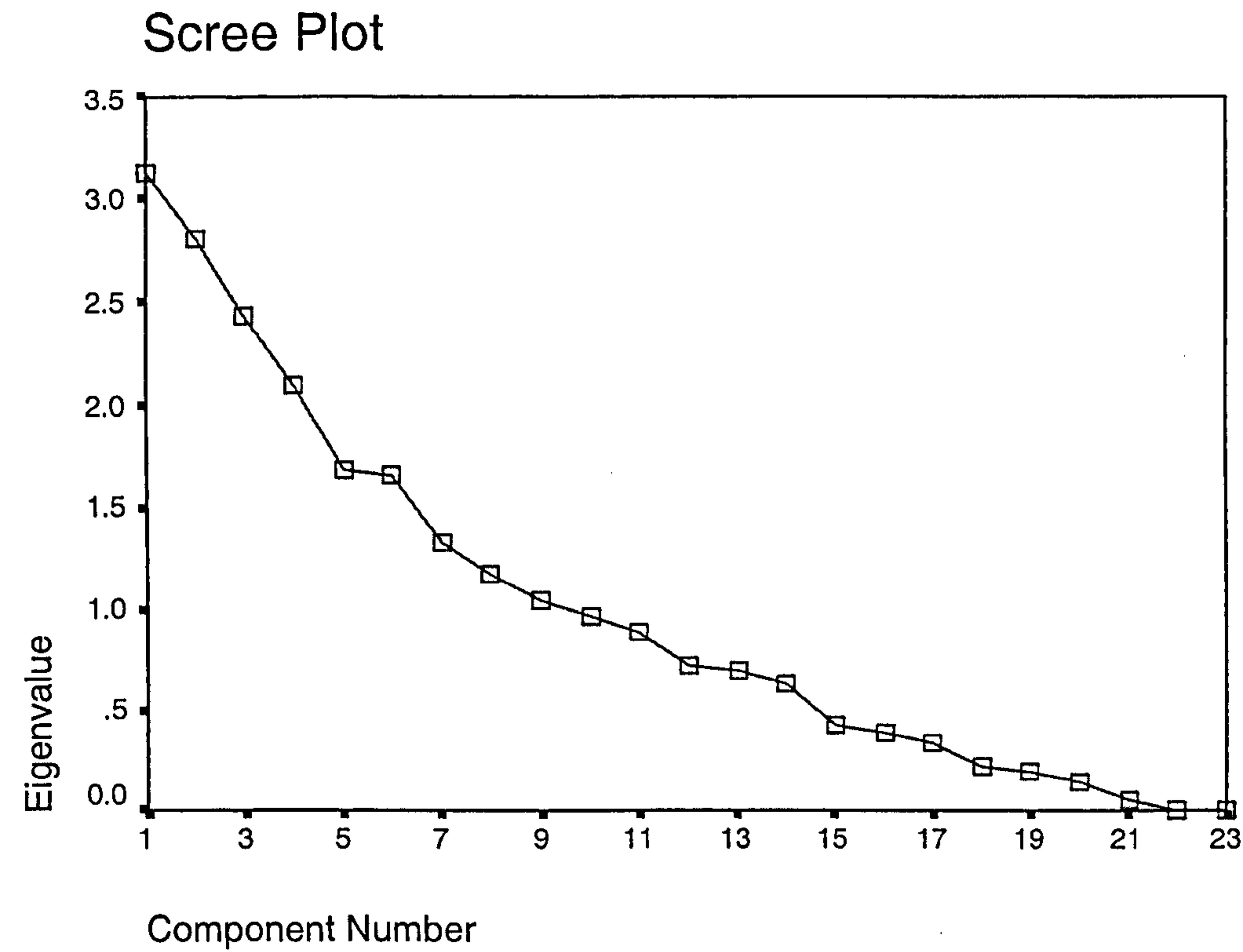
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3.132 | 13.618 | 13.618 | 3.132 | 13.618 | 13.618 | 2.535 | 11.023 | 11.023 |
| 2 | 2.802 | 12.182 | 25.801 | 2.802 | 12.182 | 25.801 | 2.210 | 9.609 | 20.632 |
| 3 | 2.433 | 10.578 | 36.379 | 2.433 | 10.578 | 36.379 | 2.187 | 9.508 | 30.140 |
| 4 | 2.102 | 9.140 | 45.519 | 2.102 | 9.140 | 45.519 | 2.136 | 9.287 | 39.427 |
| 5 | 1.685 | 7.325 | 52.844 | 1.685 | 7.325 | 52.844 | 1.956 | 8.506 | 47.933 |
| 6 | 1.663 | 7.229 | 60.073 | 1.663 | 7.229 | 60.073 | 1.900 | 8.261 | 56.193 |
| 7 | 1.321 | 5.746 | 65.819 | 1.321 | 5.746 | 65.819 | 1.490 | 6.479 | 62.672 |
| 8 | 1.173 | 5.099 | 70.917 | 1.173 | 5.099 | 70.917 | 1.478 | 6.425 | 69.097 |
| 9 | 1.038 | 4.511 | 75.429 | 1.038 | 4.511 | 75.429 | 1.456 | 6.331 | 75.429 |

Extraction Method: Principal Component Analysis.

The aim of factor analysis is to represent a set of variable as simply as possible. Thus, the best factor analysis would be the one with as few factors as necessary. Table 8.6 shows the minimum number of factors and the maximum percentage of variance. The Eigenvalue is the amount of variance in all the variables that is explained by that factor. The table shows that 75% of the total variance was attributable to the first nine factors. The remaining four factors only accounted for 25% of the variance. Hence the nine factors seemed to be adequate to represent the data. For example, factor 2 had a variance of 2.802 which constituted 12% of the total variance of 23.000 from the initial 23 factors.

The scree plot provides a graphic image of the Eigenvalues extracted. It can be seen in the plot that factor 10 has an Eigenvalues of less than 1 so only the first nine factors have been retained.

Figure 8.1



In order to delineate patterns more clearly, a varimax rotation method was run on the 23 determinant factors if the loading factor value was equal to or greater than the absolute value of 0.5 we selected as the determinant. The analysis extracted nine components out of the twenty three factors.

Table 8.7

Rotated Component Matrix

| | Component | | | | | | | | |
|----------------------------------|-----------|------|------|------|------|------|------|-------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| To Cover Deficiencies | | | | | | | | | |
| A Most Favourable Alternative | | .747 | | | | | | | |
| Minimize Impact Financial Market | | | | | | | .867 | | |
| Growing Islamic Finance | | | | | | .768 | | | |
| Play Supplementary Role | | | | | | .510 | | | |
| Credit Risk | | | | | | | | | |
| Inflation Risk | | | | | | | | | |
| Event Risk | | | .803 | | | | | | |
| Currency Risk | | | | | | | | | .790 |
| Liquidity Risk | | | | | | | | | |
| Reinvestment Risk | | .761 | | | | | | | |
| Liquidity Reason | .690 | | | | | | | | |
| Interest-free Investment | | | | | | | | | |
| Sharia Issue | .501 | | | | | | | | |
| Alternative Product | | | | | | | | | |
| The Economics Benefits | | | | | | | | | |
| Regulatory Purpose | | | | .744 | | | | | |
| Guaranteed By Bank | | | | | | | | -.820 | |
| Low Debt Ratio | | | | | | | | | |
| Strategic Company | | | .662 | | | | | | |
| Strong BOD | | | | | .798 | | | | |
| Excellent R & D | | | | .676 | | | | | |
| Long Established Company | | | | | .657 | | | | |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

A. Rotation converged in 17 iterations.

Using SPSS, nine components emerged from the analysis (see table 8.7). The two determinant factors that have high loadings on component 1 are liquidity reasons and *sharia* issues, whereas most favourable financing alternative and reinvestment risk have high loadings on component 2 and so on up to the ninth component. The interpretation of the nine components is based on the loadings of the twenty-three variable on these factors. Each factor loading is the correlation coefficient which shows how much weight is assigned to the factor. Hence the factor loading of 0.747 in the first row of the column 2 indicates the strength of correlation between the variable a most favourable alternative and components 2; variables with factor loadings smaller than 0.5 are normally considered not significant and can be ignored with respect to the factors.

Table 8.8 Result of Factor Analysis of Determinants of Bonds Investment

| Factors | Factor Loading |
|--|-----------------------|
| Factor 1 (variance explained 3.132) | |
| Liquidity reason | 0.690 |
| Sharia issue | 0.501 |
| Factor 2 (variance explained 2.802) | |
| Most favourable alternative of financing sources | 0.747 |
| Reinvestment risk | 0.761 |
| Factor 3 (variance explained 2.433) | |
| Event risk | 0.803 |
| Strategic company | 0.662 |
| Factor 4 (variance explained 2.102) | |
| Excellent R&D | 0.744 |
| Regulatory purpose | 0.676 |
| Factor 5 (variance explained 1.685) | |
| Strong BoD | 0.798 |
| Long established companies | 0.657 |
| Factor 6 (variance explained 1.663) | |
| Growing Islamic finance | 0.768 |
| Supplementary role of long-term funding | 0.510 |
| Factor 7 (variance explained 1.321) | |
| Minimize impact of financial market | 0.867 |
| Factor 8 (variance explained 1.173) | |
| Guaranteed by banks | 0.820 |
| Factor 9 (variance explained 1.038) | |
| Currency risk | 0.790 |

Factor 1 can be labelled as the motive for bond investments. This includes liquidity and *sharia* issues as the factors motivating the dealers to participate in the bond market. When making a buy/sell decision on Islamic bonds, liquidity and *sharia* factor are considered as the most important factors by the bond and fund managers. Since factor 1 has the highest Eigenvalue and variance (eigenvalue=3.132, variance 14%) it necessarily

represents the most important factor that influences investors to buy Islamic bonds. In other words, dealers when making a buy/sell on Islamic bonds considered liquidity and *sharia* issues as the most important factors that determined their decision on bond investments. It is evidence that dealers are quite concerned about the liquidity as the descriptive statistics showed more than 50% agreed with the need for a liquidity benchmark yield curve for Islamic bonds and almost 60% expected the frequent bonds issuance.

Factor 2 concerns economic justification and risk factors. The indicator includes the rationale for buying the Islamic bonds as the most favourable alternatives combined with reinvestment risk as criteria to buy the instruments. This factor has Eigenvalue equal to 2.802 and its variance of 12% represents the second most important factor in bond selection. Dealers believe that the Islamic bonds provide them relatively favourable investment avenues; however they have a perception of reinvestment risk which worried them. The dealers' perception of the Islamic bond market as an alternative avenue of investment is supported by the descriptive statistics where almost 60% percent of the dealers agreed that Islamic bonds could reduce their costs and provide new profit opportunities.

Dealers also value firms with a strategic perspective as an important factor in their decisions on bond financing. Factor 3 concerns knowledge of the issuer combined with risk element of which has an Eigenvalue equal to 2.433 and a variance of 11%. Apart from the strategic perspective of the bond issuer, they worry about risk when making decisions on corporate bonds.

Dealers also consider excellent R&D and a strong board membership as important factors to evaluate corporate bonds. Factor 4 (eigenvalue=2.102, variance 9%) and Factor 5 (eigenvalue=1.685, variance 7.3%) suggest the importance of issuer quality which influences

bond selection of investors for corporate debt transactions. They see the credibility of board members of the issuing company as affecting their bond investments. These two qualities may influence the marketability of bond issues in attracting potential investors, while to the issuers this attribute may contribute to a higher credit rating therefore giving better chance of getting a relatively low cost of borrowing in the capital market.

The cluster reflecting the economic rationale for Islamic bond investments is reflected by factors 6 and 7. The two factors have Eigenvalues of 1.663 and 1.323 respectively which represent variances of 7% and 6%. Within the reasons that dealers give for participating in the Islamic bond market, the sixth factor indicates that bond and fund managers believe that participation in Islamic bond market relates to its supplementary role as well as to accommodating the growing needs for Islamic finance.

Factor 8 relates to credit enhancement of bond issuers with bank guarantees. In contrast, factor 9 shows the perception of currency risk that is considered by the dealers. The former has Eigenvalue of 1.173 which constitutes 5% variance, while the latter has Eigenvalue of 1.038 and 4.5% variance. The dealers believe that the credit enhancement of issuers would be strengthened by bank guarantees. This is indicated in the eighth factor. The element of currency risk, however, is not to be overlooked in the Islamic bond investment.

8.4 CONCLUSIONS

In this study we conducted exploratory factor analysis to examine whether a smaller number of common factors can account for the pattern of correlations in a larger number of variables. The objective is to determine the common factors that could have influenced the respondents' attitude towards bond investments in the Islamic capital market of Malaysia. Factor analysis is generally appropriate for scale development when we have a set of interval level or non-dichotomous variables. However, in this study we treated the nominal and ordinal variables (multiple-item measures) as interval data because these measures allow a large number of categories to be stipulated. Thus our inferences will take account of this assumption.

We identified nine factors that were relatively significant from an original set of twenty three variables using the SPSS factor procedures. Among the nine factors, liquidity reason and *sharia* issues were the most important factors that had attracted bond and fund manager to Islamic bonds. They selected Islamic debts as their primary instrument mainly because it is an investment that operates on Islamic principles and provides an alternative for liquidity management without an interest element as well as earning profits.

However, bond and fund managers also selected Islamic bonds as they strongly believe that the bonds offer a favourable alternative and also consider reinvestment risks as criteria when buying Islamic instruments. The third and fourth most important factors that attracted them to Islamic bonds were the quality of the bond issuers. Beside risk factors, dealers value firms with a strategic perspective and excellent R&D as criteria in selecting corporate bonds. Having a strong board of directors and a well established business are also important factors in corporate bond decisions.

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In previous research, the knowledge of issuers and liquidity were reported as the important factors in bond selection. Although we elaborated such factors in more detail, our finding suggested that these factors are consistently important. When making a buy or sell decision on Islamic bonds, we found that knowledge of the issuer is equally important to bond and fund managers. The main reason for this because the same persons are involved in the Malaysian capital market irrespective of whether the bonds be Islamic or non-Islamic. In term of risk factor ranking, apart from credit risk, our finding suggested that liquidity and inflation are among the highly ranked factors. However in term of buying motives, bond and fund managers consider the Islamic principles as a highly ranked factor. These factors include *riba* free investment and *sharia* reasons. However, they still consider the liquidity factor to be among the most important criteria in buying or selling Islamic bonds.

CHAPTER 9

CONCLUDING REMARKS AND IMPLICATIONS

9.1 INTRODUCTION

Apart from the banking system, the Islamic capital market is important in providing not only an alternative funding source for Muslim dealers but also to broaden and deepen the existing *sharia*-based financial market. The key issues in the development of the Islamic debt securities market is the endeavour and realisation of feasible instruments and legitimate alternatives for economic needs. This chapter will discuss three broad categories, namely, research findings, the implications of the research and the limitation of our study.

The purpose of this study can be divided into two main aspects; namely to examine the dealers characteristics and their perception of risk and to determine the pertinent factors which trigger bond and fund managers in Islamic bond selection. The study provides evidence regarding risk perception which may not be influenced by interaction effects of education and managerial position but is evidently by the main effects. This study reveals that there is a significant similarity between the selection criteria for conventional bonds where the liquidity factor is the most important factor with Islamic bond selection. However, another interesting finding from this study is that the religious factor is the main factor why bond and fund managers choose Islamic instruments.

The finding is summarized in table 9.1.

| Research hypotheses | Research questions | Findings |
|---|--|--|
| The individual socio-economic characteristic may influence the dealers' perception of risk. | Is there any significant evidence for interaction effects between education, occupation and managerial level on the dealers' perception of risk? | The main effects of education, occupation category and managerial level have a significant influence on the dealers' risk perception but the interaction effects of education, occupation and managerial level do not. |
| The selection criteria in Islamic bonds does not differ from the conventional bonds except for <i>riba</i> avoidance. | What are the selection criteria which bond and fund managers perceived as pertinent factors in Islamic bond decisions? | The most important factors are liquidity and religious factors. These are followed by the quality of issuers and risk considerations. |

In Islam, the nature and origin of debt that characterizes financial instruments has a significant effect on the legitimacy of the bond. Debt that arises from a credit sale is known as *al dayn* whereas the obligation that derives from money lending is called *al qard*. Any reward stipulated from loans transaction tantamount to *riba* is strictly prohibited but the profit resulting from sales transaction is not. Apart from prohibition of *riba*, the essence of Islamic fixed income securities is based on the premise of legitimate modes of financing. Unlike the conventional debts, the bond structure in *sharia* frameworks is either on the basis of the PLS (profit and loss sharing) or non-PLS modes rather than straight money lending. Although the price of a non-PLS bond is pre-determined just like the conventional bond, *sharia* allows the payment of profit margin or rental income on such transactions.

Furthermore the modes of financing are extremely crucial to determine the nature of the rewards. In case of PLS modes, *musharaka* the bondholder will share the profits and losses with the issuer, while in *mudaraba* bond, the profits are distributed between the investor and the issuer but all the losses are borne by the investor alone. Under the equity-

based system, the profitability of the real sector such as project investment or business ventures will determine the return of financial assets instead of the market interest rate (Khan and Mirakhor, 1988).

Islamic financial instruments of non-PLS modes such as *murabaha* and *ijara* are fixed rate bonds where their coupon are the amount of profit margin or rental income. The coupon seems to resemble an interest component. According to the opponents view, the *murabaha* instrument which involves a guaranteed payment is equivalent to an interest bearing financial product. Although fixed rate bonds are a common feature, where the regular cash flows are paid on a monthly, quarterly or annually basis, there are also floating rate and zero coupon bonds. The floating rate bonds pay coupon payments which are adjusted periodically according to the spread and the index. Some say that index as a measure of eroded purchasing power can be accepted in Islamic instruments. However, there is also a view that indexation has an element of interest because it represents the time value of money and, therefore it should be rejected.

There appear to be strong reasons why information disclosure is more critical in Islamic environment than in conventional finance. This is due to the issue of information asymmetry and moral hazard especially in the case of unrestricted *mudaraba* instrument. Some of the factors contributing to the problems include: the unknown and non-guaranteed return on investment, the lack of accounting standards, the absence of control in the investment project and the question of the honesty of the entrepreneur.

9.2 SUMMARY OF MAJOR FINDINGS

9.2.1. Dealer's Risk Perception and Socio-economic Characteristics

The concepts of risk perception and risk preference are important in portfolio decision-making¹¹⁴. Risk preference is defined as a continuum from risk aversion to risk seeking, while risk perception is defined as a function of individual and situational differences.

The influence of socio-economic status on dealers' perception of risky decisions is mixed in this study. The log-linear analysis shows that the job category has an influence on risk perception, which is consistent with the evidence provided by Weber and Barron that occupation variables will affect an investor's risk perception. Despite this similarity, unfortunately we were unable to demonstrate that the interaction effect of education and managerial level can influence the perception of an investor in risky decision making.

In term of socio-economic status, some theorists argue that age and occupation will affect an individual's perception of the relative riskiness of investment alternatives (Barron 1976, Weber 1988). Weber studied the differences in risk perception between college students and school teachers associated with their age and occupation, while Barron found that risk rankings of a set of investment products among faculty members of a business school corresponded to the same socio-economic variables.

¹¹⁴ There are two prominent theoretical frameworks namely, the expected utility function and the risk-return model that describe this (Levy and Markowitz 1979, M. Weber and Sarin 1993, Jia and Dyer 1994, Bell 1995, U. Weber and A. Milliman 1997). The former classifies risk preference as personality traits and considers the quantification of risk and risk preference as insignificant factors. In contrast, risk-return framework assumes the expected return is measurable in value, high return and low risk as desirable and investor's risk attitude determines risk-return trade off (U. Weber and A. Milliman 1997, p. 124).

We used log-linear analysis to examine important determinants of credit risk perception. Fund and bond managers were asked about their perceptions of risk. The perceptions include the possibility of no income payment, delayed income and low income risks. The results provide evidence with respect to the way characteristics of the dealers affect risk perception. Dealers' education, job type and managerial level are the relevant influences on their perception. However these influences depend upon the specific risk perception. For example the effect of education, managerial level and job sector appear to influence the perception of the risk of no income payment whereas the interaction effect was immaterial since it did not influence risk perception. The analysis also indicates that the main effect of managerial level influences perceptions of lower income risk and no income risk. This result implies that occupation as a function of socio-economics variables can affect an investor's perception of the relative riskiness of the investment alternatives.

Previous studies provide evidence that risk perception varied with situational and individual differences. Rubinstein (1981) argues that an investor's attitude may vary over a period of time mainly because of situational factors that change his perception of what constitutes risky options and not because of changes of risk preference. Cooper, Woo and Dunkley (1988) provide further evidence for situational factors that affect differences in risk perception between entrepreneurs and managers.

The nature of dealers' perception also depends upon individual experience (sticky reference point) in term of sunk cost effect (Thaler, 1980), negative outcome (Schurr, 1987) and past performance result (Bottom, 1990). Weber and A. Milliman (1997) argue that individual difference in experience of failure or loss can affect an investor's perception of what constitutes risky alternatives.

Risk Factors

Islamic instruments use two broad modes of financing - PLS and non-PLS. These modes of financing also have an impact on the degree of credit riskiness. According to The Basle International Standard of risk weighting, credit risk is evaluated on the basis of the category of assets. The risk weights are 100 percent for current facilities to customers, 100 percent for net investments and 50 percent for mortgage loans. Erica and Farakhbaksh (1998) contend that the structure of Islamic credit risks should be weighted as follows; *mudaraba* investment (100 percent), *musharaka* investment (100 or less), non-mortgage financing (100 percent) and mortgage backed-financing (50 percent).

As noted earlier, credit risk related to the PLS mode is relatively higher than that related to the non-PLS mode. This is due to the absence of collateral and the uncertainty of investment returns under equity financing. The 100 percent financing means the financiers bear all capital losses, while the same losses are subject to the proportion of share capital. This indicates that credit risk of *mudaraba* financing appears to be riskier than *musharaka*. However among non-PLS, the mortgage backed/secured financing is less risky than unsecured financing or that without collateral or mortgage.

The nature and magnitude of risk associated with Islamic instruments differs from conventional debt. *Sharia* based-debt securities, by definition, involve a settlement of the purchase price of assets on mark-up basis, or a profit distribution through equity participation and partnership in the investment project. These arrangements may generate cash flows to the financier subject to credit risk and market risk. Two aspects of these risks warrant further consideration.

First, the credit risk implicit in *murabaha* or *bay bithaman ajil* contracts can be expressed as the risk that the issuer will be unable to make repayment of his debt (comprising the purchase price and profit) for a given bond. If the bond issuer delays the debt payment, the financier cannot increase the nominal value of debt since the financing is a fixed debt. The penalty charge for late payment literally means an increase of the original debt amount which is tantamount to *riba*. However, according to Islamic law, the issuer may compensate the financier for any loss from the default that is equivalent to normal profit earned during the period of late payment¹¹⁵.

Second, because *murabaha* and *bay bithaman ajil* bonds are fixed debt obligations, no additional charge arises in respect of an extension made by the issuer. According to these financing methods, the issuer is obliged to pay back the original debt on which the contract is based. The risk is therefore that the issuer will not fulfil the settlement obligation required of him within the time expected under the contract.

Third, under *istisna* bonds, the financier makes progressive payments of the total cost according to the project phase. In return, the manufacturers or the contractors will need to deliver specified assets or to build the infrastructure projects under the stipulated conditions. If during the construction or manufacturing period, raw material costs or direct wages increase then the issuer will incur the cost overrun. Likewise if the contractor has acute financial difficulties which may lead to insolvency, then there is significant risk of the abandonment of the project.

¹¹⁵ In Malaysia, the penalty charge is 1% per annum on the amount overdue as the mechanism of deterrent against the deliberate delays in payments. The penalty provision is known as *kheyanat* charge (compensation) in Bangladesh and Pakistan.

Fourth, the fact that asymmetric information attaches to *mudaraba* and *musharaka* has a major impact on the degree of riskiness. The issuers have inside knowledge about the project quality and the expected profit. Naturally, they always claim that their project is of the highest quality. In contrast, the financiers have difficulty in determining the quality of issuers especially in a very competitive debt market. These situations may lead to the adverse selection problems. PLS financing will attract issuers with a high risk project as well as those who inflate the expected profit hoping the financier will offer a low profit sharing ratio (Mills and Presley 1998, Nienhaus 1983). However, this adverse selection can be solved through monitoring and regulatory measures to enhance transparency and information disclosure.

Fifth, the credit risk implicit in *musharaka* or *mudaraba* contracts can be expressed as the risk of the ability of the project to generate expected profit for a given bond. As noted previously, the default on non-PLS means that the issuer has failed to make timely payment, whether that is a rental or price instalment. In contrast, the default on PLS means the project fails to deliver the expected investment return, that is, a lower or no profit or a loss. Indeed, under a PLS contract, neither collateral nor other guarantee is a prerequisite for the granting of financing facilities. This means the credit risk is unprotected. Furthermore, the capital value and investment return of PLS are not guaranteed by the issuer. These motivate a strong moral hazard that could result in systematic risk. If the *mudaraba* project makes a loss (before the expiry of contract), this will not constitute default on the part of the issuer except in the cases of negligence or mismanagement.

Finally, given the ex-post information asymmetry of PLS contracts, it suffices to say that the monitoring cost is very high to the financiers in order to ascertain the truthfulness of the declared profit of the issuer's business ventures or projects. The issuers have every incentive to produce bogus accounting reports which inflate profit or under report important items. The solution to moral hazards in PLS contracts needs among others, financial incentives (to promote honesty) such as bonus shares, profit related scheme or the reduction of the *mudaraba* system.

In theory, Islamic investment has a higher degree of riskiness than conventional investment especially under the assumption that PLS investments are the core activities. The main factors are related to the agency problem in terms of the unwillingness to bear risk by the financiers and the hesitation of entrepreneurs to share profit with others. Other contributing factors include the imbalance of management and control rights between the shareholders and the managers and the absence of a secondary market for trading in financial instruments in order to mobilise economic resources (Dar and Presley, 1999). For example in *mudaraba* investment, the dealers have restricted control of the management of the enterprise and have no guarantee of a fixed return on investment.

Beikos (1997) argues that Islamic banks are riskier than conventional banks. He argues that PLS exposes Islamic banks to the risk of variation of investment return and the risk of changes in fiscal and monetary policy. He also argues that a large portion of illiquid assets and the absence of hedging tools are the main reason of high liquidity and currency risks.

Previous theoretical work suggests that the credit risk associated with financing modes has a major impact on the usage of debts instruments¹¹⁶. For example, in the Islamic banking system, PLS modes play a restrictive role in the mobilisation of financial resources hence the low portion of total credit makes the system closely resemble conventional banking. We include both the credit and market risks in our of the risk ranking analysis. In particular, the analysis shows that most dealers focus on both risks when purchasing Islamic bonds which typically include liquidity, inflation, event, reinvestment and currency risks.

Table 9.2: How important are the following risks in influencing the decision to purchase Islamic bonds

| Factor | Rank |
|-------------------|------|
| Credit risk | 1 |
| Liquidity risk | 2 |
| Inflation risk | 3 |
| Event risk | 4 |
| Reinvestment risk | 5 |
| Currency risk | 6 |

The risk analysis confirms that credit and liquidity risks are the most important risks perceived by the bond and fund managers. This finding confirms that PLS contracts expose the dealers to the high liquidity risk mentioned by Beikos (1997). He also argues that the high currency risk exposure is also a most important risk factor. However, the currency risk found to be significant in his research has been found to be less important in our finding. The rank analysis also confirms that the importance of credit risk mentioned by Erica and Farakhbaksh (1998) in Islamic banking is similar to Islamic bonds. They also argue that the risk in *mudaraba* includes the default risk in term of lower profit, no profit and loss.

¹¹⁶ Islamic financial assets cover ten categories of assets that present *inter alia* credit risk and market risk. Market risk is often the major factor influencing *musharaka* and *mudaraba* bonds while credit risk is assumed to have a significant effect on *bay bithaman ajil*, *ijara* and *murabaha* instruments.

The previous theoretical work by Obaidullah (1998) indicates that Islamic debts less vulnerable than conventional bonds to interest rate risk because interest fluctuation is not a major threat to non-*riba* debt instruments. However, he provides no empirical evidence to support his claim. This view is not true in a financial market that allows conventional bonds to coexist with Islamic instruments.¹¹⁷ However, the interest rate risk is not included in this research since we focused on *ex ante* risk perceived specifically for Islamic bonds.

9.2.2. Bonds Selection Factors

In most theoretical models of corporate finance, the bond market is a crucial financial infrastructure similar to that of the bank loan market. The *sharia*-based bond market is also expected to help dealers with several liquid assets and to reduce the likelihood of heavy liquidity reliance on the banking system. Hence, the Islamic bond market should provide liquidity management. Lucas and McDonald (1987) who focused their study on US banks found that liquidity requirement motivates banks to securitize loans. Min (1998) found that a country's liquidity, as measured by the debt-service ratio is significant in the economy. He argues that the higher the export earnings, the higher the debt service ratios and hence the less the liquidity problem of a country.

In this research, the factor analysis identifies several groups of important selection factors in bonds purchase. First of all, liquidity and *sharia* factors are found to be significant for the bond selection. Specifically, dealers are very concerned over their liquidity needs and simultaneously regard the Islamic value of the debt instruments as the most important

¹¹⁷ In Mirakhor (1996) it is shown that a reference rate can be estimated using a cost of capital recommended by Tobin who measure expected rate of return on private and public projects. In the dual financial environment, the firms issuing Islamic bonds are usually referring the bank base lending rate and the coupon rate of government bonds as their reference rate when pricing their instruments.

criteria when purchasing Islamic bonds. Second, some of the issuer's attributes are found to be significant determinants of bond selection; these include companies with strategic perspectives, research and development, strong board members, regularity of issues and bank guaranteed.

Third, the risk factor is also an important selection criterion as mentioned earlier in the risk ranking. However, in the Malaysian Islamic bond segment, currency risk does not always coincide with fixed income theory which suggests that dealers will pay more attention to currency risk. Finally, for the attractiveness of Islamic economic factors as indicated in terms of the importance of Islamic funds, the adverse impact of financial market and alternative debt instruments is found to be not important in selection criteria.

The liquidity factor which is also ranked highly in this research is considered as one of the important factors by Financial Issues Limited (2002) respondents. Their research in the UK, using average score to determine the bond selection criteria, reported price to be the main criterion followed by knowledge of issuer, cash flow, knowledge of sector, deal structure, liquidity and assigned rating. The liquidity factor, which was found to be important in earlier research conducted in the UK and the USA, is also found to be important in this research. This can probably explained by the theory of corporate finance where liquidity is a crucial factor, similar to that of Islamic finance. In other words, the liquidity requirement is also relevant for Islamic bond dealers in their selection criteria. However their needs must be in accordance with *sharia* rules.

The finding also confirms that the *sharia* issue is one of the major factors in Islamic bond selection. Metawa and Alamosawi (1998) sought to establish the selection criteria used by the Muslim customers in Bahrain when selecting their banks. The four most important criteria perceived by Muslims were the Islamic principles, rewards extended by the banks, influence of family and friends and convenient location. This finding, indicating religion as the most important reason for customers patronising Islamic banks, is consistent with our finding that *sharia* is the second most important factor when selecting Islamic bonds.

By contrast, previous empirical studies such as those by Kader (1993), Haron et al (1994) and Gerard and Cunningham (1997), showed that the *sharia* principle is not significant to customers in selecting Islamic banks. They found that fast and efficient service was the most important factor in bank selection.

Knowledge of issuers which was found to be important in earlier research (Financial Issues Limited, 2002) is found to be the same in this research. The factor analysis shows that quality of bond issuers has a significant effect on bond selection. However, in the analysis we included questions which measured the evaluation criteria of bond issuers used by the respondents using a wide range of criteria. These include a firm's strategic perspective, excellent R&D, a strong board of directors and being an established company. Fisher (1969) argued that the firm's size and leverage are important determinants of corporate bond risk, while Shalit and Ben-Zion (1975) suggested that the determinants of the firm equity risk constitute the firm's size, leverage and dividend records.

Indeed, firms issuing bonds according to Islamic *fatwa* are subject to a purification filter in order to be accepted as Islamic investments. This includes the exclusion on the basis of primary business and of financial ratios. The former covers alcohol, gambling, conventional banking, pornography related companies, while the latter refers to company's debt-asset ratio and receivable-asset ratio which exceed 33% and 45% respectively as well as a non-operating income-revenue ratio of 5% or more. Debt issuers either corporate or government have a direct impact on the credit risk as they are rated to indicate the degree risk of their bonds. Junk or speculative bonds earn higher yields than investment grade securities but they have low credit rating. These arguments may not be rejected in principle.

Price, which was found to be important in earlier studies, is found to be unimportant in our research. This can be explained by the fact that our study did not include any question that could measure the pricing motive of respondents to select Islamic bonds. Kader (1993) and Haron et al (1994) found that fixed price and low interest rate as important reasons for customers patronizing Islamic banks. Their finding is consistent with the finding by Financial Issues Limited (2002).

There are many differences between the findings of earlier research and the findings of this research. Apart from price, other important factors in previous research were cash flow, knowledge of sector, deal structure, assigned rating, external and internal recommendation and previous experience with issuer. In contrast other important factors in our research include reinvestment and event risks, the attractiveness of Islamic finance as a growing sector and the economic alternative, bank guarantees and the impact of the conventional financial market.

In contrast, there are also many similarities between the findings of earlier research and the findings of this research. Apart from liquidity and the issuer, the regularity of issues as important factors in this research are consistent with the findings by Financial Issues Limited (2002). The currency factor which is ranked fourteen in this research is considered one of the pertinent factors in bond selection in previous research.

9.3 IMPLICATIONS OF THE RESULTS

The important lessons for the Islamic bond market seeking greater support from fund managers with a risky investment seem clear (i) liquidity needs and religious factors play a crucial role in Islamic bond selection; (ii) a superior quality of issuer is expected and corporate bonds issuing firms especially are expected to have a clear strategic vision, strong board membership and an excellent research and development history.

The finding that dealers evaluate the risks in bond selection and that dealers' risk perception are highly related to socio-economics variables lends behavioural support to capital market theory. Dealers may actually use risk judgment to distinguish among bonds as possible investment alternatives. In other words the perceptual difference between fund managers and investment professionals implies that the pricing dimension could become more pronounced and probably more important in designing financial assets.

This study can serve several important needs of the investment community. For dealers in fixed income instruments, the findings assist in forming default expectations associated with particular debt instruments and their viability as Islamic financing modes. This can then help in determining the appropriate ex-post rate of return for the level of risk taken. This study could also be used by financiers and financial investment professionals in

bond pricing, risk management, bond yield spread models and determining their portfolio in compliance with both *sharia* and economics constraints. The results afford us with a better understanding of what affects, and ultimately accounts for the selection factors in the bond decision process and is of importance to dealers, issuers, regulatory agencies and all other participants with an interest in the formulation of bond marketing strategies and the design of financial innovations.

There are a number of areas for further research. The effect of selection criteria on bond transactions may change if some macro-economic fundamentals are incorporated into the factor analysis. There is evidence that macro-economic conditions affect the yield spread behaviour (Athanasakos and Carayannopoulos, 2001). The quality of the issuer may not be very significant in the selection factors if there are economic variables in the determinants of bond selection. Hence it may be useful to extend the empirical analysis to cover economic variables. For example this may have allowed us to determine whether the inflation rate and gdp growth influence the bond transactions.

There is also a need for further investigation of some of the empirical analyses. One of the test results is puzzling. The log linear analysis shows that education, job category and managerial level significantly influence fund managers' perception of risk. This is relevant for the risk probability of delayed income and no income payment. In contrast, in the case of lower than expected income, the interaction effect of education and job category together combined with the main effect of managerial level are the influential factors. Although the multivariate analysis shows that job category also influences the investor's risk perception, the test does not predict this discrepancy effect. However, the result is consistent with the notion that experienced fund managers are more competent in predicting risk because they have more dealing exposure in bond markets. The analysis implies that the individual

characteristics of bond dealers' perception of risks are significantly influenced by job category. Because risk perception reflects fund managers' attributes, the employment dimension implies that dealers' characteristics are influential in bond selection factors. Testing of the implication regarding the institutional characteristics of dealers on risk taking is left for future research.

Commercial banks are vital to the asset securitization and to traditional lending activities. Corporate sectors no longer rely only on the banking system for their business expansion and working capital. In contrast, they could benefit from a better deal in financial packages from the issuing of the bonds. Empirical evidence such as why companies issue Islamic debts securities, why institutional dealers choose financial assets based on *sharia* principles and how corporate issuers discriminate between conventional instruments which are available in the bond market are all issues which can be usefully explored in future research.

9.4 THE LIMITATIONS

Numerous studies have analyzed the determinants of risk at both macro and micro level. At the micro level, they include the relationship between accounting ratio and the firm's systematic beta (Beaver et al 1970) and the risk-return relationship at the firm level (Fisher 1959, Fisher and Hall 1969). In contrast, at macro levels the relationship between risk premium on the stock market, the level of the stock index, the money supply, long-term short term spread and expected inflation, the influence of real economic growth and inflation have been found to be determinant (Robichek and Cohn 1974, Rosenberg and W. McKibbe 1973).

On the whole, the evidence presented in this study implies that the individual characteristic of dealers, the quality of issuers, and liquidity and religious criteria are influential factors in Islamic bond selection. Important but not widely understood are the variability of risk perception across asset-types and the perceptual differences between individual and institutional dealer in Islamic bonds. However, a number of caveats apply to this study:

- ◆ More explicit multivariate test of various socio-economics characteristics is needed to adjust the perceptual dimensions of dealers.
- ◆ The credit risk dimension of Islamic bonds, conventional bonds and other instruments may differ from those displayed in this paper.
- ◆ The shortcoming of the limited sample, the lack of interpersonal comparison of risk behaviour and the need to explore dealers other than individuals.
- ◆ The data in this paper represent fund managers in the dual financial system where Islamic and conventional debt securities are traded in the bond market but there is evidence that the selection factors in conventional and Islamic bonds differ.
- ◆ The result in this paper is most representative of the risks associated with the *ex-ante* risks properties. The *ex-post* risks on the basis of financing modes may be able to provide information on risk attitudes of individual fund managers many times more reliable than that presented here.

- ◆ Dealers' choices concerning the maturity and the yield features of the financial assets to be used will have material effects on adverse selection and the bond structures of any new issues.
- ◆ The macro-economic factors may be important determinants of selection criteria. However, the economics impacts are intimately related to the market risk and have a significant effect on bond pricing. Research on these matters is needed.

9.5 CONCLUSIONS

In summary, dealers' characteristics can account for the perceived risks in the Islamic bond market and, in fact are found to have a significant impact on risk attitude, though the results are mixed. In contrast, previous studies find a significant impact of socio-economic variables on dealers' risk perceptions of conventional stock market, but so far no study prior to this one had explicitly tried to account for investor's perception of the riskiness of Islamic securities. However, the degree of credit risk is primarily linked to the issuers' ability to make timely payment and the capability of investment projects to yield expected returns. As for bond selection factors, the findings of this study are fairly consistent with previous works, the results show that liquidity and *sharia* factors are the most influential factors when buying bonds.

Serious effort among practitioners, *sharia* experts and academia is needed in the design of Islamic debt securities that offer competitive returns while having an ethical appeal. Ultimately the success of the Islamic bond market will rely on institutional commitment to adhere to *sharia* law, the practicality of Islamic finance theory and the economic benefits of debt securities.

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APPENDIX 1

RESEARCH OPINION ON ISLAMIC BONDS

Your backgrounds

1. Your gender

Male

Female

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2. Please indicate your age group

20 years old or less

21-31 years old

32-42 years old

43-53 years old

54-64 years old

65+ years old

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3. Which box best reflects your total annual income?

RM10, 000 or less

RM10, 000-29,999

RM30, 000-49,999

RM50, 000-69,999

RM70, 000-89,999

RM90, 000-109,999

RM110, 000+

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4. Your highest formal education

You can tick more than one.

PhD/Master degree

Professional qualification

University first degree

Diploma/Advance diploma

SPM/STPM/A level

Other (.....)

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5. Which box best describes your job?

Senior Management

Middle Management

Junior Management

Other (.....)

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6. What sector do you work in?

- Finance professional
- State corporation
- Government
- Sharia scholar/cleric

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7. In the past year, how many times have you attended seminars or short courses on Islamic banking and Finance?

- 1
- 2 to 4
- 4+
- None

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8. Do you have a degree in economics/finance/management?

- Yes
- No

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9. Are you considering studying an Islamic Economics degree/diploma?

- Consider
- Possibly
- Don't know

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Your Research Opinion

Multiple-choice Answers

1. Which of the following best explain the risk of Islamic bonds?
(Tick as many risks as apply)

Types of product

- Murabaha (cost plus sales)
- BBA (deferred payment sales)
- Ijara (leasing)
- Istisna (order sales)
- Salam (forward sales)

High-risk

Low- risk

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Issuers

- Government agencies
- Federal government
- Private companies
- Public corporations

High-risk

Low- risk

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2. Would you consider sharia advice more important than professional advice on the Islamic bond?
(Tick one box only)

Very important
Important
Less important
Don't know

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3. How long the bondholder will retain their debt securities?
(Tick one box only)

Less than 6 month
1-2 years

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3-4 years
10+ years

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YES/NO

4. Please indicate if you agree with the statements:

Over the counter markets are more suited to Institutional activity
Exchange-traded markets are more conducive to retail participation
The integrity of the clearing and settlement system required to be independent of regulators

Allowing selected participation such as institutions licensed under the Securities Industry Act and fund manager to conduct repo (repurchase Agreement) transaction with the banking institutions

YES/NO

YES/NO

YES/NO

YES/NO

5. The Islamic debt securities provide the financial benefits:

Reduced cost for issuers
Higher returns for investors
New profits sources

YES/NO

YES/NO

YES/NO

6. Thinking about the Islamic corporate bonds show satisfied are you with:

Appropriate liquid benchmark yield curve
Frequency of bond issuance
Sufficient size of bond issuance
Span of bond maturities

YES/NO

YES/NO

YES/NO

YES/NO

7. To help diversify and widen the Islamic issuer base, please indicate if you agree with the statements:

- Financial guarantee insurer as a substitute for bank guarantees
- Allowing non-investment grade paper on to the Islamic bond market
- Promoting retail participation in Islamic bonds
- Increase the involvement of pension funds in Islamic bond

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| YES/NO |
| YES/NO |
| YES/NO |
| YES/NO |

Agreement and Satisfaction

(Tick one box only)

| | | Strongly agree | Agree | Disagree | Don't know |
|-----|--|----------------|-------|----------|------------|
| 8. | Do you support the return on Ijara bond being based on the current rental price rather than the profit rate? | | | | |
| 9. | Do you support the return on Murabaha bond being based on the current commodity price rather than profit rate? | | | | |
| 10. | Do you support the return on Qardhul Hassan bond being based on welfare service rather than economic purpose? | | | | |
| 11. | Do you support the BBA bond being based on property market value rather than financial asset cost? | | | | |
| 12. | Do you agree that quality of Islamic bond is lower than the conventional bonds? | | | | |
| 13. | Do you support the view that the Islamic bonds are riskier than the conventional bonds? | | | | |
| 14. | Do you support the view that the Islamic bonds are more profitable than the conventional bonds? | | | | |

15. Please indicate if you agree with the statement

Indicate your satisfaction using the values

1=very satisfied

2=fairly satisfied,

3=not satisfied

- I prefer to spread my Islamic investment to reduce risk
- I invest for security, not return
- I don't understand the Islamic bond
- I prefer to keep my investment in the stock market but can't afford it
- Bond market volatility worries me
- I prefer to maintain Mudaraba investment account in a bank
- I prefer to avoid usury transaction
- Sharia issues concern me

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16. Thinking of the overall development of Islamic bond market, how satisfied is you with:

Indicate your satisfaction using the values

1=very satisfied

2=fairly satisfied,

3=not satisfied

- Guideline on the issuance and trading of Islamic bonds
- Criteria to be used in evaluation of corporate bond proposals
- Degree of transparency and certainty to the bond market
- Amendment of legislation to encourage greater investor participation
- The establishment of rating agencies
- The development of benchmark securities

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17. Please tell us how you feel about these statements:

Indicate your satisfaction using the values

1=very satisfied

2=fairly satisfied,

3=not satisfied

- Money market can provide short-term pricing benchmark
- Banks can seriously hurt bond market growth
- Islamic corporate bond trading is not sizable
- The problem of credit rating agencies can also have an adverse impact on bond market growth

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Ranking

18. What were the reasons for bondholding?

Please rank between 1 and 3

1= the aspect that is the most importance

3= the aspect that is the least importance

Financial institution tend to hold the bond until maturity for liquidity and regulatory reason

Securities companies invest in bond for speculative purpose and hold on their investments for only short-periods

Life insurance companies tend hold their bond investment until maturity because their liabilities extend over the long-term

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19. What do you believe the most appropriate time period for an Islamic bond to mature?

Please rank between 1 and 4

1= the aspect that is the most importance

4= the aspect that is the least importance

After 1-2 years

3-4 years

5-9 years

10+ years

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20. What is the main risk associated with Islamic bond?

Please rank between 1 and 4

1= the aspect that is the most importance

4= the aspect that is the least importance

Risk of income being lower than anticipated

Risk of delay in income payment

Risk of no income payment

Risk of loss of principal

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21. Why has the secondary market of Islamic bonds a lack of liquidity?

Please rank between 1 and 4

1= the aspect that is the most importance

4= the aspect that is the least importance

Most purchasers hold bond until maturity

No real time information is available on bond prices and quantities

The credit rating system is underdeveloped

There are no market makers for bonds

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22. What are the macro-economic factors do you think important for Islamic bond pricing?

Please rank between 1 and 4

1= the aspect that is the most importance

4= the aspect that is the least importance

Real gross domestic product

Profit rate

Budget deficit

Inflation interest rate

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23. What type of industry has normally a higher risk rate?

Please rank between 1 and 5

1= the aspect that is the most importance

5= the aspect that is the least importance

Trading and service

Industrial product

Consumer product

Finance

Agriculture

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24. Which of the following products do the investors favouring most?

Please rank between 1 and 5

1= the aspect that is the most importance

5= the aspect that is the least importance

Murabaha (cost plus sales)

BBA (deferred payment sales)

Ijara (leasing)

Istisna (order sales)

Salam (forward sales)

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25. How important are the Islamic debt securities to an economy?

Please rank between 1 and 5

1= the aspect that is the most importance

5= the aspect that is the least importance

Companies using them alongside equity finance and bank loans

Infrastructures projects obtain much of their long-term funding from bond

Local authorities are often active issuers in bond market

The government also depends on bonds to finance its budget deficit

Bond are dominant assets in balance sheets of bank and investment companies

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26. Why we need to develop the Islamic bond market?

Please rank between 1 and 5
1= the aspect that is the most importance
5= the aspect that is the least importance

- To cover deficiencies of the banking system
- A most favorable alternative sources of financing
- Would help lower funding costs and minimize the impact on the financial Market
- Promptly provide sufficient financial resources for the growing Islamic Finance
- To play a supplementary role in long term funding

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27. What factor do you think undermine the foreign demand for Islamic bond in Malaysia?

Please rank between 1 and 5
1= the aspect that is the most importance
5= the aspect that is the least importance

- Default risk
- Exchange rate risk
- Liquidity risk
- High trading costs
- Shariah issues

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28. Which of the following risks affect willingness to purchase and hold Islamic bonds?

Please rank between 1 and 6
1= the aspect that is the most importance
6= the aspect that is the least importance

- Credit risk
- Inflation risk
- Event risk
- Currency risk
- Liquidity risk
- Reinvestment risk

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29. Why do Islamic investors buy bond?
 Please rank between 1 and 6
 1= the aspect that is the most importance
 6= the aspect that is the least importance

- Liquidity reason
- Interest-free investment
- Sharia issue
- Alternative product
- The economics benefits
- Regulatory purpose

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30. What problems arise in the Islamic bonds market?
 Please rank between 1 and 6
 1= the aspect that is the most importance
 6= the aspect that is the least importance

- The lack of a truly market-determined rate
- Issue is too small to maintain sufficient liquidity in the secondary market
- The irregularity of the issue makes it difficult for investors to anticipate future issuance
- Bond prices are often set by a select group of large institutional investors
- The liquidity of government bonds remains low
- Individual investors are reluctant to participate in bond trading

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31. When rating the issuer what are the most important factors to look at?
 Please rank between 1 and 7
 1= the aspect that is the most importance
 7= the aspect that is the least importance

- Guaranteed by the bank
- Low debt ratio
- Strategic company
- Strong BOD (Board of Directors)
- Sound financial performance
- Excellent R&D
- Long established company

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APPENDIX 2

SAMPLE OF CAGAMAS *MUDARABA* BONDS

INFORMATION MEMORANDUM

Cagamas Berhad
(15793 I-A)
(The National Mortgage Corporation)

Issue of

**RM70 Million 3 Year Scripless *Mudaraba* Unsecured Bearer Bonds (Tier 1)
Due 19 June 2001**

Tender Opening Date : 11 June 1998
Tender Closing Date : 18 June 1998 at 11.00 a.m.
Issue Date : 19 June 1998

Issued and Processed by
Cagamas Berhad

11 June 1998

I INTRODUCTION

Cagamas Berhad ("Cagamas"), the National Mortgage Corporation, is a public limited company incorporated on 2 December 1986 under the Malaysian Companies Act, 1965. Cagamas has an authorised capital of RM200 million and a paid-up capital of RM100 million.

Cagamas intends to issue RM70 million Scripless Mudharabah Unsecured Bearer Bonds ("Sanadat Mudharabah Cagamas") to finance the purchase of Islamic housing debts in Malaysia.

II PRINCIPAL TERMS AND CONDITIONS OF CAGAMAS MUDHARABAH BOND ISSUE

| | | |
|---------------------------|---|---|
| Issuer | : | Cagamas Berhad |
| Manager and Issuing House | : | Cagamas Berhad |
| Type of Issue | : | Sanadat Mudharabah Cagamas are bonds to be issued under the Islamic principle of Al-Mudharabah whereby the bondholders and the Company share a specified ratio of the profits generated from the Company's operations in the purchase of Islamic housing debts and the income earned from the reinvestment of reflows of funds from the repayment of the debts, etc. The Bondholders shall, however, entirely bear any losses or diminution, if any, in the principal amount of the Bonds. All terms and conditions of the Bonds are subject to this principle. |
| Purpose of Issue | : | To finance the Company's purchase of a pool of Islamic housing debts denoted as MU 198. |
| Nominal Value | : | RM70 million. |
| Issue Date | : | 19 June 1998 |
| Tenor and Maturity Date | : | 3 years, to mature on 19 June 2001 |
| Form and | | |

- Denomination : The Bonds will be issued in bearer form in denominations of RM1,000,000 nominal value each or multiples thereof. After the primary issue, the Bonds may be traded in an amount of RM1,000 nominal value each or multiples thereof.
- Listing : The Bonds will be listed on the SSTs.
- Mandatory Redemption : Unless there is principal diminution, the Bonds shall be redeemed by the Company in full at their nominal value on the Maturity Date.
- Coupon : The Bonds will earn an income from the Issue Date with the dividends being payable semi-annually on each Coupon Payment Date. The Coupon is determined as follows:-
- (a) Coupon is derived from the profits earned by the Company from its Islamic operations in respect of the pool of Islamic housing debts concerned, less any legal, consultative and trustee fees and other direct expenditure if any for the Bond issue, and the profit due to the Company based on the Profit Sharing Ratio as specified below as well as the portion of the funds if any, provided by the Company.
 - (b) Any losses arising from the Islamic operations in respect of the pool of housing debts concerned shall be **deducted** from the accumulated profits and upon the exhaustion of such profits, the losses shall be **deducted** from the principal balance of the Bonds, resulting in the erosion of the nominal value of the Bonds and a possible redemption of the Bonds at less than par value on maturity.
 - (c) The Bonds will cease to earn any income on the date on which they are due for redemption.
 - (d) Coupon Payment Date means every 19 December and 19 June in each year, during the tenor of the Bonds commencing on 19 December 1998 with the last coupon payment on 19 June 2001.
 - (e) The Profit Sharing Ratio will be in the proportion of 97.2% for the Bondholders

and 2.8% for Cagamas based on the income to be derived from the pool of Islamic housing debts denoted as MU 198 on the basis of a gross coupon yield amounting to 8.93% p.a.

Offering Method : By way of an invitation to the Principal Dealers and other financial institutions to submit a bid for the amount of Sanadat Mudharabah Cagamas they wish to subscribe, based on the following conditions:-

- (a) If the participant is willing to bid, the amount should be made at par. Otherwise a "nil" form should be returned.
- (b) Maximum amount to be bidden is RM70 million for each bidder, in a multiple of RM1,000,000 in nominal value.
- (c) The Principal Dealers are not subject to the normal minimum bidding requirement of 10% of the issue amount.

Allocation and Payment

: Allocation of the bonds to each bidder will be based on the size of the bid submitted by each bidder in proportion to the aggregate amount bidden by all bidders. Cagamas, however, reserves the right to vary the amount allotted to any particular bidder. The allotted amount will be rounded up to the nearest RM100,000 nominal value. Payment for the allotted amount must be made in full at par on the Issue Date. The allotted nominal value will be debited from your account and credited to our account with Maybank on 19 June 1998. For this purpose, all successful bidders shall authorise Bank Negara Malaysia to debit their respective current accounts maintained with BNM for the nominal value of Sanadat Mudharabah Cagamas allotted. Unit SPEEDS of BNM will credit the Bonds to the securities accounts of the successful bidders after the close of business on the business day immediately preceding the issue date.

Status of the Security : (a) The Bonds will be direct and unsecured obligations of the Company ranking equally with all other outstanding unsecured indebtedness of the Company and will rank pari passu without any preference among themselves.

- (b) The Bonds are deemed as low risk assets under sub-section 46(2) of the Insurance Act 1996.
- (c) The Bonds are classified as Tier 1 and are eligible instruments for the commercial banks, finance companies, merchant banks and Bank Islam Malaysia Berhad to comply with their statutory liquidity requirements.
- (d) Bank Negara Malaysia has permitted the Bonds to be regarded as financial instruments for purposes of dealings by the commercial banks, merchant banks, finance companies and discount houses.
- (e) For the purpose of compliance by the commercial banks, merchant banks and finance companies with the capital adequacy requirement (CAR), Bank Negara Malaysia has decided that the Bonds will carry a risk weightage of 10%.

Bond Certificates : A master certificate for the issue will be lodged with the Authorised Depository and trading of the Bonds will be carried out in scripless form.

Authorised Depository : In line with the Scripless Securities Trading System (SSTS) implemented by BNM on 1 January 1990, all Cagamas bearer debt securities certificates will be kept with BNM as the Authorised Depository for the securities. BNM will hold the Certificates for the beneficial holders and credit them with the specific amount of securities held for their account for the purpose of trading and transfer on the SSTS. BNM will record the holdings and transactions of scripless securities of the holders who are members of the SSTS. The holdings and transactions of the holders who are not SSTS members will be recorded by BNM under the Customers Holdings of Authorised Depository Institutions (ADIs) appointed by BNM, with details on each holder recorded at a secondary level by the ADIs. Holders who are not SSTS members have to appoint an ADI for their holdings of the Cagamas securities.

The Authorised Depository and/or the ADIs shall arrange for Holders to receive payments of the redemption proceeds in accordance with the latter's

instructions. Holders who are SSTS members shall be paid directly by the Authorised Depository, while non-SSTS member Holders shall be paid the redemption proceeds by the ADIs.

Other Conditions : The Bonds shall be at all times governed by the rules and directions (whether or not having the force of laws) required of or imposed on the investors by the Issuer and/or Bank Negara Malaysia or any other appropriate authority.

Trustee : PB Trustee Services Berhad
17th Floor, Menara Public Bank
No 146, Jalan Ampang
50450 Kuala Lumpur

Trust Deed : The bonds will be issued pursuant to the Trust Deed between the Company and PB Trustee Services Berhad dated 27 March 1996. A copy of the Trust Deed will be available for inspection during office hours on any weekday (Saturdays and public holidays excepted) at the registered offices of the Company and the Trustee Company. The Bondholders will be deemed to have notice of, are entitled to the benefits of, and are bound by all the provisions of the Trust Deed.

Paying Agent : Bank Negara Malaysia.

Solicitors : Rashid & Lee
Advocates & Solicitors
6th Floor, No 56,
Jalan Tuanku Abdul Rahman
50100 Kuala Lumpur

Governing Law : The terms and conditions of the Bond issue are governed by Trust Deed under the Laws of Malaysia.

III YIELD OF SANADAT MUDHARABAH CAGAMAS

General : The proceeds of the Bonds will be used to purchase about the same principal amount of Islamic housing debts. The Company would, to its best ability, use all cashflows from the repurchase of the Islamic housing debts as well as any income earned, to invest in other

Islamic financial assets. The profits from the Islamic housing debts and the other Islamic financial

assets accumulated during a Coupon Payment period would form the basis for computing the amount of Coupon for that Period. The profits would be distributed according to the specified Profit Sharing Ratio to the Bondholders and Cagamas, after deduction of the cost of issuing the bonds and other direct expenses, as well as the profit due to the Company from the provision, if any, of its own funds.

Expected Yield : The Company would endeavour to furnish the expected per Ringgit annualised coupon yield to be distributed to Bondholders at every coupon payment period at the earliest time possible. The indicative per Ringgit annualised net coupon yield to be distributed to Bondholders is as follows:-

| Coupon Payment Period | Indicative Annualised Net Coupon Yield (% p.a.) |
|---|---|
| 1 st | 8.76 |
| 2 nd | 8.77 |
| 3 rd | 8.68 |
| 4 th | 8.63 |
| 5 th | 8.59 |
| 6 th | 8.57 |
| Indicative Annualised Net Coupon Yield to Maturity | |
| | 8.68 |

Actual Yield : The Company cannot be held responsible if the actual annualised yield paid is not as forecasted. Actual yield will be announced on every Coupon Payment Date.

IV INFORMATION ON CAGAMAS BERHAD

The Company was incorporated on 2 December 1986 as a public limited company for the purpose of creating a secondary mortgage market in the country by purchasing mortgages from the primary lenders and issuing debts papers. In addition to its purchases of conventional housing and industrial property loans, the Company also purchases Islamic housing debts and issues Islamic debt securities.

All debt securities in the form of bonds and notes issued by Cagamas have been assigned AAA and P1 ratings respectively by the Rating Agency of Malaysia Berhad (RAM) and AAA and MARC - 1 respectively by Malaysian Rating Corporation Berhad (MARC).

Financial Highlights

The following table sets out a summary of the audited financial data of the Company at the end of 1995, 1996 and 1997:

Financial Data

| | 31 Dec 1996 (RM'000) | 31 Dec 1997 (RM'000) | 31 Dec 1998 (RM'000) |
|-----------------------------|-------------------------|-------------------------|-------------------------|
| Profit before Zakat and Tax | 131,011 | 173,849 | |
| Profit after Zakat and Tax | 91,538 | 124,586 | |
| Total Assets | 16,303,204 | 22,221,422 | |
| Total Liabilities | 15,958,991 | 21,769,801 | |
| Paid-up Capital | 80,000 | 100,000 | |
| Shareholders' Funds | 344,213 | 451,621 | |

Selected Ratios:

| | | |
|---|--------|--------|
| Net Earnings Per Share (sen) 1/ | 91.54 | 124.59 |
| Net Tangible Assets Per Share (RM) 1/ | 3.44 | 4.52 |
| Return on Shareholders' Funds (%) 2/ | 43.07 | 43.69 |
| Return on Total Assets (%) 3/ | 0.92 | 0.90 |
| Net Loans/Total Interest Bearing Funding (%) | 102.86 | 102.88 |
| Interest Cover (times) 4/ | 1.15 | 1.14 |

1/ Based on 100 million ordinary shares of RM1.00 each

2/ Profit before Zakat and Tax
Average Shareholders' funds

3/ Profit before Zakat and Tax
Average Total Assets

4/ Profit before Zakat and Tax and Interest Cost
Interest Cost

Financial Data
(Interest Free Operation)

| | 31 Dec 1996 (RM'000) | 31 Dec 1997 (RM'000) | 31 Dec 1998 (RM'000) |
|---------------------------------|-------------------------|-------------------------|-------------------------|
| Profit before Zakat and Tax | 350 | 339 | |
| Profit after Zakat and Tax | 232 | 229 | |
| Total Assets | 61,512 | 89,266 | |
| Total Liabilities | 61,035 | 85,560 | |
| Interest-Free Operation's Funds | 477 | 3,706 | |

Selected Ratios:

| | | |
|---|-------|-------|
| Return on Average Interest-Free Operation's Funds (%) 1/ | 93.79 | 16.23 |
| Return on Average Total Assets (%) 2/ | 0.76 | 0.45 |

1/ Profit before Zakat and Tax
Average Interest-Free Operation's Funds

2/ Profit before Zakat and Tax
Average Total Assets

Dividend Record

For the last 7 financial years, the Company has paid or declared the following dividends:

| Year Ended | Details | RM'000 |
|-------------|--|--------|
| 31 Dec 1991 | Interim dividend of 5 sen per share less income tax, paid on 27 September 1991 | 1,950 |
| | Final dividend of 7.5 sen per share less income tax, paid on 15 May 1992 | 2,925 |

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|-------------|--|-------|
| 31 Dec 1992 | Interim dividend of 5 sen per share less income tax, paid on 30 September 1992 | 1,950 |
| | Final dividend of 7.5 sen per share less income tax, paid on 7 May 1993 | 2,970 |
| 31 Dec 1993 | Interim dividend of 5 sen per share less income tax, paid on 11 October 1993 | 2,310 |
| | Final dividend of 10 sen per share less income tax, paid on 16 May 1994 | 4,760 |
| 31 Dec 1994 | Interim dividend of 5 sen per share less income tax, paid on 10 October 1994 | 2,380 |
| | Final dividend of 10 sen per share less income tax, paid on 22 May 1995 | 4,900 |
| 31 Dec 1995 | Interim dividend of 5 sen per share less income tax, paid on 29 September 1995 | 2,800 |
| | Final dividend of 15 sen per share less income tax, paid on 10 April 1996 | 8,400 |
| 31 Dec 1996 | Interim dividend of 5 sen per share less income tax, paid on 9 October 1996 | 2,800 |
| | Final dividend of 15 sen per share less income tax, paid on 8 April 1997 | 8,400 |
| 31 Dec 1997 | Interim dividend of 5 sen per share less income tax, paid on 9 October 1997 | 2,800 |
| | Final dividend of 15 sen per share less income tax, paid on 9 April 1998 | 8,640 |
| | Special dividend of 10 sen per share less income tax, paid on 9 April 1998 | 5,760 |

Board of Directors

The Board of Directors is responsible for the formulation of the Company's general policies. There is also an Executive Committee comprising five directors who would act for the Board between Board Meetings.

The present directors are:-

- 1) Tan Sri Dato' Seri Ali Abul Hassan bin Sulaiman, Chairman of the Company (Governor of Bank Negara Malaysia).
- 2) Tan Sri Dato' Azman Hashim (Chairman of the Association of Merchant Banks in Malaysia and Arab-Malaysian Merchant Bank Berhad).
- 3) Dato' Tay Ah Lek (Chairman of the Association of Finance Companies of Malaysia and Executive Vice President of Public Bank Berhad).
- 4) Dato' Tan Teong Hean (Chief Executive Director of Southern Bank Berhad).
- 5) Dato' Abdul Aziz Hj Othman (Chief Executive Officer and Executive Director of Bank Bumiputra Malaysia Berhad).
- 6) Dato' Md Nor bin Md Yusof (President of Bank of Commerce (M) Berhad).
- 7) Datuk Amirsham A. Aziz (Chairman of the Association of Banks in Malaysia and Managing Director of Malayan Banking Berhad).
- 8) Encik Kamal Batcha Dawood (Executive Director and Chief Executive of BBMB Kewangan Berhad).
- 9) Encik Lee Kam Chuen (Senior General Manager of Hong Leong Finance Berhad).
- 10) Dato' Mohammed Hussein (Managing Director of Aseambankers Berhad).
- 11) Dato' Wan Ismail Abdul Rahman (Executive Director of Mayban Finance Berhad).
- 12) Puan Yvonne Chia (Chief Executive Officer of RHB Bank Berhad)
- 13) Dato' Dr.Zetty Akhtar, Exco Chairman (Deputy Governor of Bank Negara Malaysia)
- 14) Encik Huang Sin Cheng (Assistant Governor in Bank Negara Malaysia)

Members of the Executive Committee

Dato' Dr.Zetty Akhtar, Exco Chairman (Deputy Governor of Bank Negara Malaysia)

Encik Huang Sin Cheng (Assistant Governor in Bank Negara Malaysia)

Encik Kamal Batcha Dawood (Executive Director and Chief Executive of BBMB Kewangan Berhad).

Dato' Mohammed Hussein (Managing Director of Aseambankers Berhad).

Dato' Md Nor bin Md Yusof (President of Bank of Commerce (M) Berhad).

Management

The day-to-day operations of Cagamas is managed by Encik Huang Sin Cheng, the General Manager of Cagamas. Other members of the management team are as follows:-

Encik N. Kokularupan a/l Narayanasamy
Assistant General Manager

Encik Mahdi Mohd Ariffin
Finance Manager/Company Secretary

Dr. Ahmad Nazri Wahidudin
Senior Research Analyst

The Management team is supported by a team of qualified staff with experience in their respective fields, particularly mortgage operations and finance.

V MAJOR SHAREHOLDERS OF CAGAMAS AND DISTRIBUTION OF SHAREHOLDERS

The ten largest shareholders of the Company as at 1 June 1997 are:

| | No. of Shares | % Shareholding |
|--------------------------------------|-------------------|----------------|
| Bank Negara Malaysia | 20,000,000 | 20.00 |
| Bank Bumiputra Malaysia Berhad | 7,884,000 | 7.88 |
| Malayan Banking Berhad | 7,058,000 | 7.06 |
| Public Bank Berhad | 3,996,400 | 4.00 |
| Sime Bank Berhad | 3,567,600 | 3.57 |
| Hongkong Bank Malaysia Berhad | 3,126,000 | 3.13 |
| Arab-Malaysian Merchant Bank Berhad | 3,100,000 | 3.10 |
| Standard Chartered Bank M'sia Berhad | 3,060,000 | 3.06 |
| MBf Finance Berhad | 2,372,000 | 2.37 |
| Mayban Finance Berhad | <u>2,156,000</u> | <u>2.16</u> |
| | <u>56,320,000</u> | <u>56.32</u> |

Distribution of the shareholders are as follows:

| | | |
|----------------------|--------------------|---------------|
| Bank Negara Malaysia | 20,000,000 | 20.00 |
| Commercial Banks | 45,400,000 | 45.40 |
| Finance Companies | 25,000,000 | 25.00 |
| Merchant Banks | <u>9,600,000</u> | <u>9.60</u> |
| | <u>100,000,000</u> | <u>100.00</u> |

